



hales[®]



**2025
INDUSTRIAL PRODUCTS**



CUTTING TOOLS

■ Endmills	268
■ Slot Drills	269
■ Jobber Drills	272
■ Deep Hole Drills	275
■ Masonry Drills	276
■ Taper Shank Drills	277
■ Centre Drills	278
■ Chucking Reamers	279
■ Counter-bores	280
■ Counter-sinks	281
■ Taps	282
■ Button Dies	286
■ Gun Taps	287
■ Tapping Compounds & Fluids	289
■ Recoil	289
■ Hack Saws, Band Saw blades	290

ABRASIVES

■ Grinding Wheels	292
■ Wet & Dry Sheets	293
■ Dressing Sticks	293
■ Mounted Points	294
■ Diamond Points	295
■ Air Grinders	296
■ Diamond Paste & Thinner	297
■ Felt Bob & Cone	297
■ Carbide Burrs	298
■ Polishing Stones	299
■ Diamond Files	304
■ Hand Files	305

FASTENERS

■ Socket Head Cap Screws	307
■ Socket Shoulder Screws	311
■ Socket Head Counter Sunk Screws	312
■ Socket Set Screws	313
■ Allen Keys	314
■ Tapped Dowel Pins	315
■ Standard Dowel Pins	316
■ Pin Plungers	317
■ Ball Catches	317

EDM SUPPLIES

■ EDM Wires	318
■ EDM Water Filters	320
■ Rust Preventative	322
■ EDM Machine Cleaner	322
■ Resin - Hales brand	322
■ EDM Fluid	323
■ EDM Oil Filters	323
■ Tellurium Copper for EDM Electrodes	324
■ Copper Tubes	325

MATERIALS

■ Gauge Plate	326
■ Silver Steel	329
■ Wash Ground Mild Steel Bar	330
■ Urethane Rods	331
■ Shim Steel	331

SPRINGS

■ Die Springs Medium Duty	332
■ Die Springs Medium Heavy Duty	335
■ Die Springs Heavy Duty	338
■ Die Springs Extra Heavy Duty	341
■ Compression Springs	343
■ Gas Springs	352

CLAMPING & LIFTING

■ Vertical Toggle Clamps	354
■ Push Pull Clamps	356
■ Horizontal Toggle Clamps	360
■ Eye Bolts	363

INDUSTRIAL ACCESSORIES

■ Dial Indicator Kit	367
■ Coolant-proof Digital Calliper	367
■ Micrometer Outside	367
■ Magnetic Stand	368
■ Edge Finder	368
■ Steel Rule Toledo	368
■ Work Finisher Ceramic & Throwaway Knives	369
■ Tape Measure	369
■ Hand Held Refractometer	369
■ Air Tool Oil	370
■ Bearing Blue & Layout Stain	370
■ Tolerance Chart in Microns	371

- VHM - ULTRA grade of carbide for high performance
- Dual stepped core for optimal stability
- Ideal design for pocket milling in MQL & HSC
- Suitable for materials up to 48 HRC
- AlCrN for longer tool life



Product Code	Description	Size mm	Shank Dia mm	Length of Cut	Overall Length
CHMES06	6mm Reg AlCrN Carbide Endmill Harmony	6	6	13	57
CHMES08	8mm Reg AlCrN Carbide Endmill Harmony	8	8	19	63
CHMES10	10mm Reg AlCrN Carbide Endmill Harmony	10	10	22	72
CHMES12	12mm Reg AlCrN Carbide Endmill Harmony	12	12	26	83
CHMES14	14mm Reg AlCrN Carbide Endmill Harmony	14	14	26	83
CHMES16	16mm Reg AlCrN Carbide Endmill Harmony	16	16	32	92
CHMES20	20mm Reg AlCrN Carbide Endmill Harmony	20	20	38	104

Carbide Endmills - Regular

- For precision milling applications
- Suitable for materials up to 1600 N/mm²
- TiAlN for longer tool life



Product Code	Description	Size mm	Shank Dia mm	Length of Cut	Overall Length
CTMES02	2mm Reg TiAlN Carbide Endmill Std	2	3	6	38
CTMES03	3mm Reg TiAlN Carbide Endmill Std	3	3	12	38
CTMES04	4mm Reg TiAlN Carbide Endmill Std	4	4	14	50
CTMES05	5mm Reg TiAlN Carbide Endmill Std	5	6	16	50
CTMES06	6mm Reg TiAlN Carbide Endmill Std	6	6	19	50
CTMES08	8mm Reg TiAlN Carbide Endmill Std	8	8	20	63
CTMES10	10mm Reg TiAlN Carbide Endmill Std	10	10	22	75
CTMES12	12mm Reg TiAlN Carbide Endmill Std	12	12	15	75
CTMES16	16mm Reg TiAlN Carbide Endmill Std	16	16	32	89
CTMES20	20mm Reg TiAlN Carbide Endmill Std	20	20	38	100

Carbide Endmills - Long

- For long-reach finish milling applications
- Suitable for materials up to 1300 N/mm²
- TiAlN for longer tool life



Product Code	Description	Size mm	Shank Dia mm	Length of Cut	Overall Length
CTMEL03	3mm Long TiAlN Carbide Endmill Std	3	3	19	60
CTMEL04	4mm Long TiAlN Carbide Endmill Std	4	4	19	60
CTMEL05	5mm Long TiAlN Carbide Endmill Std	5	5	19	60
CTMEL06	6mm Long TiAlN Carbide Endmill Std	6	6	31	75
CTMEL08	8mm Long TiAlN Carbide Endmill Std	8	8	31	75
CTMEL10	10mm Long TiAlN Carbide Endmill Std	10	10	31	75
CTMEL12	12mm Long TiAlN Carbide Endmill Std	12	12	50	100
CTMEL16	16mm Long TiAlN Carbide Endmill Std	16	16	57	125
CTMEL20	20mm Long TiAlN Carbide Endmill Std	20	20	57	125

- For profile & contour milling
- Suitable for materials up to 1600 N/mm²
- TiAlN for longer tool life



Product Code	Description	Size mm	Shank Dia mm	Length of Cut	Overall Length
CTBEM02	2mm B/N Reg TiAlN Carbide Endmill Std	2	3	6	38
CTBEM03	3mm B/N Reg TiAlN Carbide Endmill Std	3	3	12	38
CTBEM04	4mm B/N Reg TiAlN Carbide Endmill Std	4	4	14	50
CTBEM05	5mm B/N Reg TiAlN Carbide Endmill Std	5	6	16	50
CTBEM06	6mm B/N Reg TiAlN Carbide Endmill Std	6	6	19	50
CTBEM08	8mm B/N Reg TiAlN Carbide Endmill Std	8	8	20	63
CTBEM10	10mm B/N Reg TiAlN Carbide Endmill Std	10	10	22	75
CTBEM12	12mm B/N Reg TiAlN Carbide Endmill Std	12	12	25	75
CTBEM16	16mm B/N Reg TiAlN Carbide Endmill Std	16	16	32	89
CTBEM20	20mm B/N Reg TiAlN Carbide Endmill Std	20	20	38	100

Carbide Endmills Ballnose - Long

- VHM - ULTRA grade of carbide for high performance
- For profile & contour milling in long reach applications
- Suitable for materials up to 1600 N/mm²
- AlCrN for longer tool life



Product Code	Description	Size mm	Shank Dia mm	Length of Cut	Overall Length
CTBEML03	3mm B/N Long TiAlN Carbide Endmill Std	3	6	8	60
CTBEML04	4mm B/N Long TiAlN Carbide Endmill Std	4	6	8	70
CTBEML05	5mm B/N Long TiAlN Carbide Endmill Std	5	6	10	80
CTBEML06	6mm B/N Long TiAlN Carbide Endmill Std	6	6	12	90
CTBEML08	8mm B/N Long TiAlN Carbide Endmill Std	8	8	14	100
CTBEML10	10mm B/N Long TiAlN Carbide Endmill Std	10	10	18	100
CTBEML12	12mm B/N Long TiAlN Carbide Endmill Std	12	12	22	110
CTBEML16	16mm B/N Long TiAlN Carbide Endmill Std	16	16	30	140
CTBEML20	20mm B/N Long TiAlN Carbide Endmill Std	20	20	38	160

Carbide Slot Drill - Regular

- For precision milling of slots & cavities
- Suitable for materials up to 1600 N/mm²
- TiAlN for longer tool life



Product Code	Description	Size mm	Shank Dia mm	Length of Cut	Overall Length
CTMSS03	3mm Reg TiAlN Carbide Slot Drill Std	3	3	12	38
CTMSS04	4mm Reg TiAlN Carbide Slot Drill Std	4	4	14	50
CTMSS05	5mm Reg TiAlN Carbide Slot Drill Std	5	6	16	50
CTMSS06	6mm Reg TiAlN Carbide Slot Drill Std	6	6	19	50
CTMSS08	8mm Reg TiAlN Carbide Slot Drill Std	8	8	20	63
CTMSS10	10mm Reg TiAlN Carbide Slot Drill Std	10	10	22	75
CTMSS12	12mm Reg TiAlN Carbide Slot Drill Std	12	12	25	75
CTMSS16	16mm Reg TiAlN Carbide Slot Drill Std	16	16	32	89
CTMSS20	20mm Reg TiAlN Carbide Slot Drill Std	20	20	38	100

- For profile & contour milling
- Suitable for materials up to 1600 N/mm²
- TiAlN for longer tool life



Product Code	Description	Size mm	Shank Dia mm	Length of Cut	Overall Length
CTBSM02	2mm B/N Long TiAlN Carbide Slot Drill Std	2	3	6	38
CTBSM03	3mm B/N Long TiAlN Carbide Slot Drill Std	3	3	12	38
CTBSM04	4mm B/N Long TiAlN Carbide Slot Drill Std	4	4	14	50
CTBSM05	5mm B/N Long TiAlN Carbide Slot Drill Std	5	6	16	50
CTBSM06	6mm B/N Long TiAlN Carbide Slot Drill Std	6	6	19	50
CTBSM08	8mm B/N Long TiAlN Carbide Slot Drill Std	8	8	20	63
CTBSM10	10mm B/N Long TiAlN Carbide Slot Drill Std	10	10	22	75
CTBSM12	12mm B/N Long TiAlN Carbide Slot Drill Std	12	12	25	75
CTBSM16	16mm B/N Long TiAlN Carbide Slot Drill Std	16	16	32	89
CTBSM20	20mm B/N Long TiAlN Carbide Slot Drill Std	20	20	38	100

Carbide Endmills 3 Flute - Regular

- For precision milling of slots & cavities
- For precision universal milling application
- Suitable for materials up to 1600 N/mm²
- TiAlN for longer tool life



Product Code	Description	Size mm	Shank Dia mm	Length of Cut	Overall Length
CTM3ER03	3mm Reg TiAlN Carbide 3 Flute Endmill Std	3	3	12	38
CTM3ER04	4mm Reg TiAlN Carbide 3 Flute Endmill Std	4	4	14	50
CTM3ER05	5mm Reg TiAlN Carbide 3 Flute Endmill Std	5	6	16	50
CTM3ER06	6mm Reg TiAlN Carbide 3 Flute Endmill Std	6	6	19	50
CTM3ER08	8mm Reg TiAlN Carbide 3 Flute Endmill Std	8	8	20	63
CTM3ER10	10mm Reg TiAlN Carbide 3 Flute Endmill Std	10	10	22	75
CTM3ER12	12mm Reg TiAlN Carbide 3 Flute Endmill Std	12	12	25	75

HSS Endmill - Regular

- For precision finish milling applications
- Suitable for materials up to 850 N/mm²
- For soft steels & non-ferrous material



Product Code	Description	Size mm	Shank Dia mm	Length of Cut	Overall Length
MER03	3mm Reg Endmill	3	6	10	50
MER04	4mm Reg Endmill	4	8	13	60
MER05	5mm Reg Endmill	5	8	16	60
MER06	6mm Reg Endmill	6	8	16	60
MER08	8mm Reg Endmill	8	10	18	65
MER10	10mm Reg Endmill	10	10	21	75
MER12	12mm Reg Endmill	12	12	24	80
MER14	14mm Reg Endmill	14	12	28.5	90
MER16	16mm Reg Endmill	16	16	26.5	95
MER20	20mm Reg Endmill	20	16	38	110
MER25	25mm Reg Endmill	25	25	44.5	120

- For precision finish milling applications
- Suitable for materials up to 850 N/mm²
- For soft steels & non-ferrous material



Product Code	Description	Size mm	Shank Dia mm	Length of Cut	Overall Length
MEL03	3mm Long Endmill	3	6	15	60
MEL04	4mm Long Endmill	4	8	20	60
MEL05	5mm Long Endmill	5	8	25	65
MEL06	6mm Long Endmill	6	8	25	65
MEL08	8mm Long Endmill	8	10	35	80
MEL10	10mm Long Endmill	10	10	45	95
MEL12	12mm Long Endmill	12	12	55	105
MEL16	14mm Long Endmill	16	16	65	120
MEL20	16mm Long Endmill	20	20	75	140

HSS Slot Drill - Regular

- For general milling of slots & cavities
- Suitable for materials up to 850 N/mm²
- For soft steels & non-ferrous material



Product Code	Description	Size mm	Shank Dia mm	Length of Cut	Overall Length
MSR02	2mm Reg Slot Drill	2	6	7	50
MSR03	3mm Reg Slot Drill	3	6	9	50
MSR04	4mm Reg Slot Drill	4	8	12	60
MSR05	5mm Reg Slot Drill	5	8	15	60
MSR06	6mm Reg Slot Drill	6	8	15	60
MSR08	8mm Reg Slot Drill	8	10	20	65
MSR10	10mm Reg Slot Drill	10	10	25	75
MSR12	12mm Reg Slot Drill	12	12	30	80
MSR14	14mm Reg Slot Drill	14	16	35	90
MSR16	16mm Reg Slot Drill	16	16	40	95
MSR20	20mm Reg Slot Drill	20	20	45	110
MSR25	25mm Reg Slot Drill	25	35	50	120

HSS Slot Drill - Long

- For general milling of slots & cavities
- Suitable for materials up to 850 N/mm²
- For soft steels & non-ferrous material



Product Code	Description	Size mm	Shank Dia mm	Length of Cut	Overall Length
MSL03	3mm Long Slot Drill	3	6	15	60
MSL04	4mm Long Slot Drill	4	8	20	60
MSL05	5mm Long Slot Drill	5	8	25	65
MSL06	6mm Long Slot Drill	6	8	25	65
MSL08	8mm Long Slot Drill	8	10	35	80
MSL10	10mm Long Slot Drill	10	10	45	95
MSL12	12mm Long Slot Drill	12	12	55	105
MSL16	16mm Long Slot Drill	16	16	65	120
MSL20	20mm Long Slot Drill	20	20	75	140



- Various combinations available
- Designed for machine and hand drilling

Product Code	Description	Size Range	Pieces	Case
DSET-SM2	Hales Drill 19pcs Set & Case	1.0 - 10.0mm x 0.5	19	ABS
DSET-SM3	Hales Drill 25pcs Set & Case	1.0 - 13.0mm x 0.5	25	ABS
DSET-SM99	Hales Drill 100pcs Set & Case	1.0 - 10mm x .01 (+10.5, 10.9, 11.0, 11.5, 11.9, 12.0, 12.5, 12.9, 13.0mm)	100	Plastic

HSS Jobber Drill - Metric

- General purpose drill
- Web thinned point for easier penetration
- Splitpoint for easier penetration
- Designed for machine and hand drilling



Product Code	Size mm	Length of Cut mm	Overall Length
JDM010	1.00	12	34
JDM0105	1.05	12	34
JDM0110	1.10	14	36
JDM0115	1.15	14	36
JDM0120	1.20	16	38
JDM0125	1.25	16	38
JDM0130	1.30	16	38
JDM0135	1.35	16	38
JDM0140	1.40	18	40
JDM0145	1.45	18	40
JDM0150	1.50	18	40
JDM0155	1.55	20	43
JDM0160	1.60	20	43
JDM0165	1.65	20	43
JDM0170	1.70	20	43
JDM0175	1.75	22	46
JDM0180	1.80	22	46
JDM0185	1.85	22	46
JDM0190	1.90	22	46
JDM0195	1.95	22	46
JDM0200	2.00	24	49
JDM0205	2.05	24	49
JDM0210	2.10	24	49
JDM0215	2.15	27	53
JDM0220	2.20	27	53

Product Code	Size mm	Length of Cut mm	Overall Length
JDM0225	2.25	27	53
JDM0230	2.30	27	53
JDM0235	2.35	27	53
JDM0240	2.40	27	53
JDM0245	2.45	30	57
JDM0250	2.50	30	57
JDM0255	2.55	30	57
JDM0260	2.60	30	57
JDM0265	2.65	30	57
JDM0270	2.70	33	61
JDM0275	2.75	33	61
JDM0280	2.80	33	61
JDM0285	2.85	33	61
JDM0290	2.90	33	61
JDM0295	2.95	33	61
JDM0300	3.00	33	61
JDM0310	3.10	36	65
JDM0320	3.20	36	65
JDM0330	3.30	36	65
JDM0340	3.40	39	70
JDM0350	3.50	39	70
JDM0360	3.60	39	70
JDM0370	3.70	39	70
JDM0380	3.80	43	75
JDM0390	3.90	43	75
JDM0400	4.00	43	75

- General purpose drill
- Web thinned point for easier penetration
- Splitpoint for easier penetration
- Designed for machine and hand drilling



Product Code	Size mm	Length of Cut mm	Overall Length
JDM0410	4.10	43	75
JDM0420	4.20	43	75
JDM0430	4.30	47	80
JDM0440	4.40	47	80
JDM0450	4.50	47	80
JDM0460	4.60	47	80
JDM0470	4.70	47	80
JDM0480	4.80	52	86
JDM0490	4.90	52	86
JDM0500	5.00	52	86
JDM0510	5.10	52	86
JDM0520	5.20	52	86
JDM0530	5.30	52	86
JDM0540	5.40	57	93
JDM0550	5.50	57	93
JDM0560	5.60	57	93
JDM0570	5.70	57	93
JDM0580	5.80	57	93
JDM0590	5.90	57	93
JDM0600	6.00	57	93
JDM0610	6.10	57	93
JDM0620	6.20	63	101
JDM0630	6.30	63	101
JDM0640	6.40	63	101
JDM0650	6.50	63	101
JDM0660	6.60	63	101
JDM0670	6.70	63	101
JDM0680	6.80	69	109
JDM0690	6.90	69	109
JDM0700	7.00	69	109
JDM0710	7.10	69	109
JDM0720	7.20	69	109
JDM0730	7.30	69	109
JDM0740	7.40	69	109
JDM0750	7.50	69	109
JDM0760	7.60	75	117
JDM0770	7.70	75	117
JDM0780	7.80	75	117
JDM0790	7.90	75	117
JDM0800	8.00	75	117
JDM0810	8.10	75	117
JDM0820	8.20	75	117
JDM0830	8.30	75	117
JDM0840	8.40	75	117
JDM0850	8.50	75	117
JDM0860	8.60	81	125

Product Code	Size mm	Length of Cut mm	Overall Length
JDM0870	8.70	81	125
JDM0880	8.80	81	125
JDM0890	8.90	81	125
JDM0900	9.00	81	125
JDM0910	9.10	81	125
JDM0920	9.20	81	125
JDM0930	9.30	81	125
JDM0940	9.40	81	125
JDM0950	9.50	81	125
JDM0960	9.60	87	133
JDM0970	9.70	87	133
JDM0980	9.80	87	133
JDM0990	9.90	87	133
JDM1000	10.00	87	133
JDM1010	10.10	87	133
JDM1020	10.20	87	133
JDM1030	10.30	87	133
JDM1040	10.40	87	133
JDM1050	10.50	87	133
JDM1060	10.60	87	133
JDM1070	10.70	94	142
JDM1080	10.80	94	142
JDM1090	10.90	94	142
JDM1100	11.00	94	142
JDM1110	11.10	94	142
JDM1120	11.20	94	142
JDM1130	11.30	94	142
JDM1140	11.40	94	142
JDM1150	11.50	94	142
JDM1160	11.60	94	142
JDM1170	11.70	94	142
JDM1180	11.80	94	142
JDM1190	11.90	101	151
JDM1200	12.00	101	151
JDM1210	12.10	101	151
JDM1220	12.20	101	151
JDM1230	12.30	101	151
JDM1240	12.40	101	151
JDM1250	12.50	101	151
JDM1260	12.60	101	151
JDM1270	12.70	101	151
JDM1280	12.80	101	151
JDM1290	12.90	101	151
JDM1300	13.00	101	151

- General purpose drill
- Web thinned point for easier penetration
- Splitpoint for easier penetration
- Designed for machine and hand drilling



Product Code	Size inch	Length of Cut mm	Overall Length
JD02	1/32	20	43
JD03	3/64	20	43
JD04	1/16	20	43
JD05	5/64	24	49
JD06	6/64	24	49
JD07	7/64	33	61
JD08	1/8	36	65
JD09	9/64	39	70
JD10	5/32	43	75
JD11	11/64	47	80
JD12	3/16	52	86
JD13	13/64	52	86
JD14	7/32	57	93
JD15	15/64	57	93
JD16	1/4	63	101
JD17	17/64	73	105

Product Code	Size inch	Length of Cut mm	Overall Length
JD18	9/32	69	109
JD19	19/64	75	117
JD20	5/16	75	117
JD21	21/64	75	117
JD22	11/32	81	125
JD23	23/64	81	125
JD24	3/8	87	133
JD25	25/64	87	133
JD26	13/32	87	133
JD27	27/64	94	142
JD28	7/16	94	142
JD29	29/64	94	142
JD30	15/32	101	151
JD31	31/64	111	151
JD32	1/2	114	152

HSS Jobber Drill Long



- General purpose drill
- Web thinned point for easier penetration
- Splitpoint for easier penetration
- Designed for machine and hand drilling

Product Code	Size mm	Length of Cut mm	Overall Length
LDM02	2	57	108
LDM025	2.5	64	117
LDM03	3	70	130
LDM035	3.5	76	137
LDM04	4	86	146
LDM045	4.5	86	146
LDM05	5	92	152
LDM055	5.5	92	152
LDM06	6	95	156
LDM065	6.5	98	159
LDM07	7	98	159
LDM075	7.5	102	162

Product Code	Size mm	Length of Cut mm	Overall Length
LDM08	8	105	165
LDM085	8.5	105	165
LDM09	9	108	171
LDM095	9.5	108	171
LDM10	10	111	178
LDM105	10.5	117	184
LDM11	11	117	184
LDM115	11.5	117	184
LDM12	12	121	197
LDM125	12.5	121	197
LDM13	13	121	203



- Extended Length
- Featuring parabolic deep hole flute design with extra length

Product Code	Description	Size mm	Length of Cut	Overall Length
DM02125	2mm Deep Hole Drill #1	2	90	125
DM03150	3mm Deep Hole Drill #1	3	105	150
DM035165	3.5mm Deep Hole Drill #1	3.5	115	165
DM04175	4mm Deep Hole Drill #1	4	120	175
DM045185	4.5mm Deep Hole Drill #1	4.5	125	185
DM05195	5mm Deep Hole Drill #1	5	135	195
DM055205	5.5mm Deep Hole Drill #1	5.5	140	205
DM06205	6mm Deep Hole Drill #1	6	140	205
DM065215	6.5mm Deep Hole Drill #1	6.5	150	215
DM07225	7mm Deep Hole Drill #1	7	155	225
DM075225	7.5mm Deep Hole Drill #1	7.5	155	225
DM08240	8mm Deep Hole Drill #1	8	165	240
DM085240	8.5mm Deep Hole Drill #1	8.5	165	240
DM09250	9mm Deep Hole Drill #1	9	175	250
DM095250	9.5mm Deep Hole Drill #1	9.5	175	250
DM10265	10mm Deep Hole Drill #1	10	185	265

HSS Deep Hole Drills Series 2



- Extended Length
- Featuring parabolic deep hole flute design with extra length

Product Code	Description	Size mm	Length of Cut	Overall Length
DM02160	2mm Deep Hole Drill #2	2	110	160
DM03190	3mm Deep Hole Drill #2	3	130	190
DM035210	3.5mm Deep Hole Drill #2	3.5	145	210
DM04220	4mm Deep Hole Drill #2	4	150	220
DM045235	4.5mm Deep Hole Drill #2	4.5	160	235
DM05245	5mm Deep Hole Drill #2	5	170	245
DM055260	5.5mm Deep Hole Drill #2	5.5	180	260
DM06260	6mm Deep Hole Drill #2	6	180	260
DM065275	6.5mm Deep Hole Drill #2	6.5	190	275
DM07290	7mm Deep Hole Drill #2	7	200	290
DM075290	7.5mm Deep Hole Drill #2	7.5	200	290
DM08305	8mm Deep Hole Drill #2	8	210	305
DM085305	8.5mm Deep Hole Drill #2	8.5	210	305
DM09320	9mm Deep Hole Drill #2	9	220	320
DM095340	9.5mm Deep Hole Drill #2	9.5	235	340
DM10340	10mm Deep Hole Drill #2	10	235	340



- Extended Length
- Featuring parabolic deep hole flute design with extra length

Product Code	Description	Size mm	Length of Cut	Overall Length
DM025225	2.5mm Deep Hole Drill #3	2.5	150	225
DM03240	3mm Deep Hole Drill #3	3	160	240
DM035265	3.5mm Deep Hole Drill #3	3.5	180	265
DM04280	4mm Deep Hole Drill #3	4	190	280
DM045295	4.5mm Deep Hole Drill #3	4.5	200	295
DM05315	5mm Deep Hole Drill #3	5	210	315
DM055330	5.5mm Deep Hole Drill #3	5.5	225	330
DM06330	6mm Deep Hole Drill #3	6	225	330
DM065350	6.5mm Deep Hole Drill #3	6.5	235	350
DM07370	7mm Deep Hole Drill #3	7	250	370
DM075370	7.5mm Deep Hole Drill #3	7.5	250	370
DM08390	8mm Deep Hole Drill #3	8	265	390
DM085390	8.5mm Deep Hole Drill #3	8.5	265	390
DM09410	9mm Deep Hole Drill #3	9	280	410
DM095430	9.5mm Deep Hole Drill #3	9.5	295	430
DM10430	10mm Deep Hole Drill #3	10	295	430

Masonry Drill - Single Brick



- Single Brick Masonry Drill
- Tradesman quality ideal for use in natural and artificial stone, masonry, brickwork & concrete.

Product Code	Description	Plug Colour	Dia. mm	Overall Length
MDMS03	3 x 60 Masonry Drill	Yellow	3	60
MDMS04	4 x 75 Masonry Drill	Yellow	4	75
MDMS05	5 x 85 Masonry Drill	White	5	85
MDMS055	5.5 x 95 Masonry Drill	Red	5.5	95
MDMS06	6 x 100 Masonry Drill	Red	6	100
MDMS065	6.5 x 100 Masonry Drill	Green	6.5	100
MDMS07	7 x 100 Masonry Drill	Green	7	100
MDMS08	8 x 120 Masonry Drill	Blue	8	120
MDMS09	9 x 120 Masonry Drill	Blue	9	120
MDMS10	10 x 120 Masonry Drill	Orange	10	120



- General purpose drill
- Suitable for materials up to 900 N/mm²

Product Code	Description	Dia mm	Overall Length
TSDM12	12 Morse Taper Shank Drill	12	182
TSDM125	12.5 Morse Taper Shank Drill	12.5	182
TSDM13	13 Morse Taper Shank Drill	13	182
TSDM135	13.5 Morse Taper Shank Drill	13.5	189
TSDM14	14 Morse Taper Shank Drill	14	189
TSDM145	14.5 Morse Taper Shank Drill	14.5	212
TSDM15	15 Morse Taper Shank Drill	15	212
TSDM155	15.5 Morse Taper Shank Drill	15.5	218
TSDM16	16 Morse Taper Shank Drill	16	218
TSDM165	16.5 Morse Taper Shank Drill	16.5	223
TSDM17	17 Morse Taper Shank Drill	17	223
TSDM175	17.5 Morse Taper Shank Drill	17.5	228
TSDM18	18 Morse Taper Shank Drill	18	228
TSDM185	18.5 Morse Taper Shank Drill	18.5	233
TSDM19	19 Morse Taper Shank Drill	19	233
TSDM195	19.5 Morse Taper Shank Drill	19.5	238
TSDM20	20 Morse Taper Shank Drill	20	238
TSDM205	20.5 Morse Taper Shank Drill	20.5	243
TSDM 21	21 Morse Taper Shank Drill	21	243
TSDM 215	21.5 Morse Taper Shank Drill	21.5	248
TSDM 22	22 Morse Taper Shank Drill	22	248
TSDM 225	22.5 Morse Taper Shank Drill	22.5	253
TSDM 23	23 Morse Taper Shank Drill	23	253
TSDM 235	23.5 Morse Taper Shank Drill	23.5	276
TSDM 24	24 Morse Taper Shank Drill	24	281
TSDM 245	24.5 Morse Taper Shank Drill	24.5	281
TSDM 25	25 Morse Taper Shank Drill	25	281
TSDM 255	25.5 Morse Taper Shank Drill	25.5	286
TSDM 26	26 Morse Taper Shank Drill	26	286
TSDM 265	26.5 Morse Taper Shank Drill	26.5	286
TSDM 27	27 Morse Taper Shank Drill	27	291
TSDM 275	27.5 Morse Taper Shank Drill	27.5	291
TSDM 28	28 Morse Taper Shank Drill	28	291
TSDM 285	28.5 Morse Taper Shank Drill	28.5	296
TSDM 29	29 Morse Taper Shank Drill	29	296
TSDM 295	29.5 Morse Taper Shank Drill	29.5	296
TSDM 30	30 Morse Taper Shank Drill	30	296
TSDM 305	30.5 Morse Taper Shank Drill	30.5	301
TSDM 31	31 Morse Taper Shank Drill	31	301

Product Code	Description	Dia mm	Overall Length
TSDM 315	31.5 Morse Taper Shank Drill	31.5	301
TSDM 32	32 Morse Taper Shank Drill	32	334
TSDM 325	32.5 Morse Taper Shank Drill	32.5	334
TSDM 33	33 Morse Taper Shank Drill	33	334
TSDM 335	33.5 Morse Taper Shank Drill	33.5	334
TSDM 34	34 Morse Taper Shank Drill	34	339
TSDM 345	34.5 Morse Taper Shank Drill	34.5	339
TSDM 35	35 Morse Taper Shank Drill	35	339
TSDM 355	35.5 Morse Taper Shank Drill	35.5	339
TSDM 36	36 Morse Taper Shank Drill	36	344
TSDM 365	36.5 Morse Taper Shank Drill	36.5	344
TSDM 37	37 Morse Taper Shank Drill	37	344
TSDM 375	37.5 Morse Taper Shank Drill	37.5	344
TSDM 38	38 Morse Taper Shank Drill	38	349
TSDM 385	38.5 Morse Taper Shank Drill	38.5	349
TSDM 39	39 Morse Taper Shank Drill	39	349
TSDM 395	39.5 Morse Taper Shank Drill	39.5	349
TSDM 40	40 Morse Taper Shank Drill	40	349
TSDM 405	40.5 Morse Taper Shank Drill	40.5	354
TSDM 41	41 Morse Taper Shank Drill	41	354
TSDM 415	41.5 Morse Taper Shank Drill	41.5	354
TSDM 42	42 Morse Taper Shank Drill	42	354
TSDM 425	42.5 Morse Taper Shank Drill	42.5	354
TSDM 43	43 Morse Taper Shank Drill	43	359
TSDM 435	43.5 Morse Taper Shank Drill	43.5	359
TSDM 44	44 Morse Taper Shank Drill	44	359
TSDM 445	44.5 Morse Taper Shank Drill	44.5	359
TSDM 45	45 Morse Taper Shank Drill	45	359
TSDM 455	45.5 Morse Taper Shank Drill	45.5	364
TSDM 46	46 Morse Taper Shank Drill	46	364
TSDM 465	46.5 Morse Taper Shank Drill	46.5	364
TSDM 47	47 Morse Taper Shank Drill	47	364
TSDM 475	47.5 Morse Taper Shank Drill	47.5	364
TSDM 48	48 Morse Taper Shank Drill	48	369
TSDM 485	48.5 Morse Taper Shank Drill	48.5	369
TSDM 49	49 Morse Taper Shank Drill	49	369
TSDM 495	49.5 Morse Taper Shank Drill	49.5	369
TSDM 50	50 Morse Taper Shank Drill	50	369
TSDM 505	50.5 Morse Taper Shank Drill	50.5	374



- Precision drill for machine use
- Rigid design for "seat" position accuracy
- 90° offers hold chamfering and spotting with the one tool
- 120° also available

Product Code	Description	Dia. mm	Overall Length
TMSD06	6.0 Trinite Spot Drill	6	66
TMSD08	8.0 Trinite Spot Drill	8	79
TMSD10	10.0 Trinite Spot Drill	10	89
TMSD12	12.0 Trinite Spot Drill	12	102
TMSD16	16.0 Trinite Spot Drill	16	115
TMSD20	20.0 Trinite Spot Drill	20	131

HSS Centre Drill



- For drilling 60° centre holes in the end of shafts
- Ensures accurate starting and centering for precision

Product Code	Description	Shank inch	Tip Dia. inch	Overall Length - inches
CD1	No. 1 Centre Drill	1/8	3/64	1 1/4
CD2	No. 2 Centre Drill	3/16	5/64	1 7/8
CD3	No. 3 Centre Drill	1/4	7/64	2
CD4	No. 4 Centre Drill	5/16	1/8	2 1/8
CD5	No. 5 Centre Drill	7/16	3/16	2 3/4
CD6	No. 6 Centre Drill	1/2	7/32	3
CD7	No. 7 Centre Drill	5/8	1/4	3 1/4



- Long series
- Straight shank

Product Code	Size mm	Flute Length mm	Overall Length
MRM015	1.5	12	62
MRM025	2.5	21	87
MRM03	3	21	87
MRM035	3.5	25	100
MRM04	4	32	110
MRM045	4.5	32	112
MRM05	5	32	125
MRM055	5.5	32	125
MRM06	6	38	150
MRM065	6.5	38	150
MRM07	7	38	150
MRM08	8	38	150

Product Code	Size mm	Flute Length mm	Overall Length
MRM09	9	45	180
MRM10	10	45	180
MRM11	11	45	180
MRM12	12	50	200
MRM13	13	50	200
MRM14	14	50	200
MRM15	15	50	200
MRM16	16	55	230
MRM18	18	55	230
MRM20	20	65	240
MRM25	25	70	265

HSS Chucking Reamer - Imperial



- Long series
- Straight shank

Product Code	Size imperial	Flute Length inches	Overall Length
MR04	1/16	1/2	2 1/2
MR05	5/64	7/8	3
MR06	3/32	3/4	3
MR08	1/8	7/8	3 1/2
MR10	5/32	1	4
MR12	3/16	1 1/8	4 1/2
MR14	7/32	1 1/4	5
MR16	1/4	1 1/2	6

Product Code	Size imperial	Flute Length inches	Overall Length
MR17	17/64	1 1/2	6
MR18	9/32	1 1/2	6
MR19	19/64	1 1/2	
MR20	5/16	1 1/2	6
MR21	21/64	1 1/2	6
MR22	11/32	1 1/2	6
MR24	3/8	1 3/4	7
MR25	25/64	1 3/4	7
MR26	13/32	1 3/4	7
MR28	7/16	1 3/4	7
MR30	15/32	1 3/4	7
MR32	1/2	2	8
MR40	5/8	2	9
MR48	3/4	2 1/2	9 1/2
MR56	7/8	2 1/2	9 1/2
MR64	1	2 3/4	10 1/2



- Solid pilot style
- 3 flute design
- Right hand cutting
- Nominal size to suit metric socket head cap screws
- Material HSS

Product Code	Description	Size mm	Shank Dia. mm	Overall Length
HCBO3	M3 Counter-bore Bit	6	5.0	71
HCBO4	M4 Counter-bore Bit	8	5.0	71
HCBO5	M5 Counter-bore Bit	10	8.0	80
HCBO6	M6 Counter-bore Bit	11	8.0	80
HCBO8	M8 Counter-bore Bit	15	12.5	100
HCBO10	M10 Counter-bore Bit	18	12.5	100
HCBO12	M12 Counter-bore Bit	20	12.5	100
HCBO16	M16 Counter-bore Bit (Tapered Shank)	26	MT3	192

Counter-bore Set



7 Piece Hales counter-bore set in case

Product Code	Size mm
HCB-SET	M3
	M4
	M5
	M6
	M8
	M10
	M12



- Counter-sinking tool
- For use in portable drills or drilling machines
- For use on most materials including plastics, non-ferrous & ferrous metals
- Material HSS

Product Code	Description	Size mm	Shank Dia. mm	Overall Length
CSK063	6.3mm Counter-sink Bit	6.3	5	45
CSK08	8mm Counter-sink Bit	8	6	50
CSK010	10mm Counter-sink Bit	10	6	50
CSK124	12.4mm Counter-sink Bit	12.4	8	56
CSK15	15mm Counter-sink Bit	15	10	60
CSK165	16.5mm Counter-sink Bit	16.5	10	60
CSK205	20.5mm Counter-sink Bit	20.5	10	63
CSK25	25mm Counter-sink Bit	25	10	67
CSK31	31mm Counter-sink Bit	31	12	71

Counter-sink Set



6 Piece Hales Counter-sink set in case

Product Code	Size mm
CSK-SET	6.3
	8.3
	10.4
	12.4
	16.5
	20.5

Taper



Intermediate



Bottoming



- General purpose use
- Suitable for materials up to 1000 N/mm²
- Through & blind holes
- Suitable for both hand and machine operations
- Material: HSS
- Depths up to approx. 1 x d₁

Product Code	Size	Type	Pitch	Shank Dia mm	Overall Length mm	Drill Dia. mm
TM021	M2	Taper	0.4	2.5	41	1.6
TM022	M2	Intermediate	0.4	2.5	41	1.6
TM023	M2	Bottoming	0.4	2.5	41	1.6
TM0251	M2.5	Taper	0.45	2.8	45	2.05
TM0252	M2.5	Intermediate	0.45	2.8	45	2.05
TM0253	M2.5	Bottoming	0.45	2.8	45	2.05
TM031	M3	Taper	0.5	3.15	48	2.5
TM032	M3	Intermediate	0.5	3.15	48	2.5
TM033	M3	Bottoming	0.5	3.15	48	2.5
TM041	M4	Taper	0.7	4	53	3.3
TM042	M4	Intermediate	0.7	4	53	3.3
TM043	M4	Bottoming	0.7	4	53	3.3
TM051	M5	Taper	0.8	5	58	4.2
TM052	M5	Intermediate	0.8	5	58	4.2
TM053	M5	Bottoming	0.8	5	58	4.2
TM061	M6	Taper	1	6.3	66	5
TM062	M6	Intermediate	1	6.3	66	5
TM063	M6	Bottoming	1	6.3	66	5
TM081	M8	Taper	1.25	8	72	6.8
TM082	M8	Intermediate	1.25	8	72	6.8
TM083	M8	Bottoming	1.25	8	72	6.8
TM101	M10	Taper	1.5	10	80	8.5
TM102	M10	Intermediate	1.5	10	80	8.5
TM103	M10	Bottoming	1.5	10	80	8.5
TM121	M12	Taper	1.75	9	89	10.2
TM122	M12	Intermediate	1.75	9	89	10.2
TM123	M12	Bottoming	1.75	9	89	10.2
TM141	M14	Taper	2	11.2	95	12
TM142	M14	Intermediate	2	11.2	95	12
TM143	M14	Bottoming	2	11.2	95	12
TM161	M16	Taper	2	12.5	102	14
TM162	M16	Intermediate	2	12.5	102	14
TM163	M16	Bottoming	2	12.5	102	14
TM181	M18	Taper	2.5	14	112	15.5
TM182	M18	Intermediate	2.5	14	112	15.5
TM183	M18	Bottoming	2.5	14	112	15.5
TM201	M20	Taper	2.5	14	112	17.5
TM202	M20	Intermediate	2.5	14	112	17.5
TM203	M20	Bottoming	2.5	14	112	17.5
TM241	M24	Taper	3	18	130	21
TM242	M24	Intermediate	3	18	130	21
TM243	M24	Bottoming	3	18	130	21



- General purpose use
- Suitable for materials up to 1000 N/mm²
- Through & blind holes
- Suitable for both hand and machine operations
- Material: HSS
- Depths up to approx. 1 x d_i

Product Code	Size	Type	TPI	Shank Dia mm	Overall Length mm	Drill Dia. mm
TW081	1/8	Taper	40	3.2	48	2.6
TW082	1/8	Intermediate	40	3.2	48	2.6
TW083	1/8	Bottoming	40	3.2	48	2.6
TW121	3/16	Taper	24	5	58	3.7
TW122	3/16	Intermediate	24	5	58	3.7
TW123	3/16	Bottoming	24	5	58	3.7
TW141	7/32	Taper	24(WHIT)	5.6	62	4.5
TW142	7/32	Intermediate	24(WHIT)	5.6	62	4.5
TW143	7/32	Bottoming	24(WHIT)	5.6	62	4.5
TW161	1/4	Taper	20	6.3	66	5.1
TW162	1/4	Intermediate	20	6.3	66	5.1
TW163	1/4	Bottoming	20	6.3	66	5.1
TW201	5/16	Taper	18	8	72	6.5
TW202	5/16	Intermediate	18	8	72	6.5
TW203	5/16	Bottoming	18	8	72	6.5
TW241	3/8	Taper	16	10	80	7.9
TW242	3/8	Intermediate	16	10	80	7.9
TW243	3/8	Bottoming	16	10	80	7.9
TW281	7/16	Taper	14	8	85	9.3
TW282	7/16	Intermediate	14	8	85	9.3
TW283	7/16	Bottoming	14	8	85	9.3
TW321	1/2	Taper	12	9	89	10.5
TW322	1/2	Intermediate	12	9	89	10.5
TW323	1/2	Bottoming	12	9	89	10.5
TW361	9/16	Taper	12	11.2	95	12.1
TW362	9/16	Intermediate	12	11.2	95	12.1
TW363	9/16	Bottoming	12	11.2	95	12.1
TW401	5/8	Taper	11	12.5	102	13.5
TW402	5/8	Intermediate	11	12.5	102	13.5
TW403	5/8	Bottoming	11	12.5	102	13.5
TW481	3/4	Taper	10	14	112	16.3
TW482	3/4	Intermediate	10	14	112	16.3
TW483	3/4	Bottoming	10	14	112	16.3



- General purpose use
- Suitable for materials up to 1000 N/mm²
- Through & blind holes
- Suitable for both hand and machine operations
- Material: HSS
- Depths up to approx. 1 x d₁

Product Code	Size	Type	Pitch	Shank Dia mm	Overall Length mm	Drill Dia. mm
TMS03	M3	HSS Hand Tap Set Metric Includes Taper, Intermediate and Bottoming Taps	0.5	3.15	48	2.5
TMS04	M4		0.7	4	53	3.3
TMS05	M5		0.8	5	58	4.2
TMS06	M6		1	6.3	66	5
TMS08	M8		1.25	8	72	6.8
TMS10	M10		1.5	10	80	8.5
TMS12	M12		1.75	9	89	10.2
TMS14	M14		2	11.2	95	12
TMS16	M16		2	12.5	102	14
TMS18	M18		2.5	14	112	15.5
TMS20	M20		2.5	14	112	17.5
TMS24	M24		3	18	130	21

Hand Tap Sets - Imperial BSW



- General purpose use
- Suitable for materials up to 1000 N/mm²
- Through & blind holes
- Suitable for both hand and machine operations
- Material: HSS
- Depths up to approx. 1 x d₁

Product Code	Size -inch	Type	TPI	Shank Dia mm	Overall Length mm	Drill Dia. mm
TWS08	1/8	HSS Hand Tap Set Imperial Includes Taper, Intermediate and Bottoming Taps	40	3.15	48	2.55
TWS10	5/32		32	4	53	3.2
TWS12	3/16		24(WHIT)	5	58	3.7
TWS16	1/4		20	6.3	66	5.1
TWS20	5/16		18	8	72	6.5
TWS24	3/8		16	10	80	7.9
TWS28	7/16		14	8	85	9.3
TWS32	1/2		12	9	89	10.5



- General purpose use
- Suitable for materials up to 1000 N/mm²
- Blind holes
- Material: HSS
- Depths up to approx. 2.5 x d₂

Product Code	Size	Type	Pitch	Shank Dia mm	Overall Length mm	Drill Dia. mm
TSFM03	M3	M3 Spiral Fluted Tap HSS	0.5	3.15	48	2.5
TSFM04	M4	M4 Spiral Fluted Tap HSS	0.7	4	53	3.3
TSFM05	M5	M5 Spiral Fluted Tap HSS	0.8	5	58	4.2
TSFM06	M6	M6 Spiral Fluted Tap HSS	1	6.3	66	5
TSFM08	M8	M8 Spiral Fluted Tap HSS	1.25	8	72	6.8
TSFM10	M10	M10 Spiral Fluted Tap HSS	1.5	10	80	8.5
TSFM12	M12	M12 Spiral Fluted Tap HSS	1.75	9	89	10.2
TSFM14	M14	M14 Spiral Fluted Tap HSS	2	11.2	95	12
TSFM16	M16	M16 Spiral Fluted Tap HSS	2	12.5	102	14
TSFM20	M20	M20 Spiral Fluted Tap HSS	2.5	14	112	17.5

Pipe Taps, Straight Flute - Imperial BSPT



- General purpose use
- Suitable for materials up to 1000 N/mm²
- Through & blind holes
- Suitable for both hand and machine operations
- Material: HSS
- Taper pipe reamer recommended prior to tapping Rc BSPT thread form

Product Code	Size	Type	TPI	Shank Dia mm	Overall Length mm	Drill Dia. mm
TPT08ORD	1/8	1/8 BSPT Tap HSS	28	8.00	59	8.4
TPT16ORD	1/4	1/4 BSPT Tap HSS	19	10.00	67	10.8
TPT24ORD	3/8	3/8 BSPT Tap HSS	19	12.50	75	14.5
TPT32ORD	1/2	1/2 BSPT Tap HSS	14	16.00	87	18.0
TPT48ORD	3/4	3/4 BSPT Tap HSS	14	20.00	96	23.0

- General purpose use
- Suitable for materials up to 1000 N/mm²
- Through & Blind holes
- Suitable for both hand and machine operations
- Material: HSS
- Depths up to approx. 1 x d₂

Taper



Intermediate



Bottoming



Product Code	Size	Type	TPI	Shank Dia mm	Overall Length mm	Drill Dia. mm
TP081	1/8	Taper	28	8.00	59	8.80
TP082	1/8	Intermediate	28	8.00	59	8.80
TP083	1/8	Bottoming	28	8.00	59	8.80
TP161	1/4	Taper	19	10.00	67	11.80
TP162	1/4	Intermediate	19	10.00	67	11.80
TP163	1/4	Bottoming	19	10.00	67	11.80
TP241	3/8	Taper	19	12.50	75	15.30
TP242	3/8	Intermediate	19	12.50	75	15.30
TP243	3/8	Bottoming	19	12.50	75	15.30
TP321	1/2	Taper	14	16.00	87	19.00
TP322	1/2	Intermediate	14	16.00	87	19.00
TP323	1/2	Bottoming	14	16.00	87	19.00
TP481	3/4	Taper	14	20.00	96	24.50
TP482	3/4	Intermediate	14	20.00	96	24.50
TP483	3/4	Bottoming	14	20.00	96	24.50
TP641	1	Taper	11	25.00	109	31.00
TP642	1	Intermediate	11	25.00	109	31.00
TP643	1	Bottoming	11	25.00	109	31.00

Button Dies - Metric



- Metric coarse
- Circular split button die
- Material: HSS

Product Code	Size	Type	Pitch	Outer Dia. inch
BD03	M3	Button Die 3mm x 0.5 pitch x 1 inch outer dia.	0.5	1
BD04	M4	Button Die 4mm x 0.7 pitch x 1 inch outer dia.	0.7	1
BD05	M5	Button Die 5mm x 0.8 pitch x 1 inch outer dia.	0.8	1
BD06	M6	Button Die 6mm x 1.0 pitch x 1 inch outer dia.	1	1
BD08	M8	Button Die 8mm x 1.25 pitch x 1 inch outer dia.	1.25	1
BD10	M10	Button Die 10mm x 1.5 pitch x 1 1/2 inch outer dia.	1.5	1 1/2
BD12	M12	Button Die 12mm x 1.75 pitch x 1 1/2 inch outer dia.	1.75	1 1/2
BD16	M16	Button Die 16mm x 2.0 pitch x 2 inch outer dia.	2	2
BD20	M20	Button Die 20mm x 2.5 pitch x 2 inch outer dia.	2.5	2



- General purpose use
- Suitable for materials up to 1000 N/mm²
- Through holes
- Material: HSS
- Depths up to approx. 3 x d_i

Product Code	Size	Type	Pitch	Shank Dia mm	Overall Length mm	Drill Dia. mm
TMG03	M3	M3 Gun Nose Tap HSS	0.5	3.15	48	2.5
TMG04	M4	M4 Gun Nose Tap HSS	0.7	4	53	3.3
TMG05	M5	M5 Gun Nose Tap HSS	0.8	5	58	4.2
TMG06	M6	M6 Gun Nose Tap HSS	1	6.3	66	5
TMG08	M8	M8 Gun Nose Tap HSS	1.25	8	72	6.8
TMG10	M10	M10 Gun Nose Tap HSS	1.5	10	80	8.5
TMG12	M12	M12 Gun Nose Tap HSS	1.75	9	89	10.2
TMG14	M14	M14 Gun Nose Tap HSS	2	11.2	95	12
TMG16	M16	M16 Gun Nose Tap HSS	2	12.5	102	14
TMG18	M18	M18 Gun Nose Tap HSS	2.5	14	112	15.5
TMG20	M20	M20 Gun Nose Tap HSS	2.5	14	112	17.5

Gun Taps - Imperial BSW



- General purpose use
- Suitable for materials up to 1000 N/mm²
- Through holes
- Material: HSS
- Depths up to approx. 3 x d_i

Product Code	Size - inch	Type	TPI	Shank Dia mm	Overall Length mm	Drill Dia. mm
TWG08	1/8	1/8 Gun Nose Tap HSS	40	3.15	48	2.55
TWG10	5/32	5/32 Gun Nose Tap HSS	32	4	53	3.2
TWG12	3/16	3/16 Gun Nose Tap HSS	24	5	58	3.7
TWG16	1/4	1/4 Gun Nose Tap HSS	20	6.3	66	5.1
TWG20	5/16	5/16 Gun Nose Tap HSS	18	8	72	6.5
TWG24	3/8	3/8 Gun Nose Tap HSS	16	10	80	7.9
TWG32	1/2	1/2 Gun Nose Tap HSS	12	9	89	10.5
TWG40	5/8	5/8 Gun Nose Tap HSS	11	12.5	102	16.25
TWG48	3/4	3/4 Gun Nose Tap HSS	10	14	112	19.25



Gun Tap Set HSSE
M3 - M12 Taps (7 Pieces)
2.5 - 10.2 mm Tapping Drills (7 Pieces)

Product Code	Product	Pack Size
GUN-SET	Gun Tap Set	7 pcs

Spiral Tap Set - Metric



Spiral Tap Set HSSE
M3 - M12 Taps (7 Pieces)
2.5 - 10.2 mm Tapping Drills (7 Pieces)

Product Code	Product	Pack Size
SPIRAL-SET	Spiral Tap Set	7 pcs



Bulk Inserts Available

Kit Includes:

- High Speed Steel Drill
- HSS STI Tap
- Combination Tap and Installation Tool
- Magnetic Tang Removal Tool
- Quantity of Inserts
- Easy to follow instruction
- All contained in a quality case

Product Code	Description
RC02-0.4	M2 x 0.4 Thread Repair Kit
RC03-0.5	M3 x 0.5 Thread Repair Kit
RC04-0.7	M4 x 0.7 Thread Repair Kit
RC05-0.8	M5 x 0.8 Thread Repair Kit
RC06-1.0	M6 x 1.0 Thread Repair Kit
RC08-1.25	M8 x 1.25 Thread Repair Kit
RC10-1.5	M10 x 1.5 Thread Repair Kit
RC12-1.75	M12 x 1.75 Thread Repair Kit

Tapping Compounds & Fluids



Product	Product Code	Description	Volume
Trefolex Paste	CRC-TREF500ML	Trefolex is a green coloured, active cutting compound. Suitable for pipe screwing, hack sawing, tapping, reaming, etc.	500 ml
	CRC-TREF2LT		2 Lt
Trefolex HD Fluid	CRC-TREF HD 500	Trefolex HD cutting fluid is an extreme duty, thick fluid that sticks to the cutting tool through out the operation. Ideal for tapping and drilling stainless steel, and titanium.	500 ml
Cut ADE Fluid	MAT-CUTADE-050	Cutting fluid for direct application. Unique solution for dealing with metalworking in any way. Longer tool life, less broken taps, better work piece finish. No hazardous symbols.	500 ml

- Quality band saw blade in plastic case x 100ft
- Available in HSS & Bi Metal
- Custom band saw blades also available on request



Product Code	Blade Width - inch	Teeth per Inch
BB0408	1/4	8 Teeth Per Inch
BB0410	1/4	10 Teeth Per Inch
BB0414	1/4	14 Teeth Per Inch
BB0418	1/4	18 Teeth Per Inch
BB0608	3/8	8 Teeth Per Inch
BB0610	3/8	10 Teeth Per Inch
BB0614	3/8	14 Teeth Per Inch
BB0618	3/8	18 Teeth Per Inch
BB0624	3/8	24 Teeth Per Inch
BB0806	1/2	6 Teeth Per Inch
BB0808	1/2	8 Teeth Per Inch
BB0810	1/2	10 Teeth Per Inch
BB0814	1/2	14 Teeth Per Inch
BB0818	1/2	18 Teeth Per Inch
BB0824	1/2	24 Teeth Per Inch
BB1210	3/4	10 Teeth Per Inch

Hack Saw Frame & Blades



Product Code	Pack Quantity	Description	Material
HSF	1	Professional ergonomic design with soft grip handle.. Premium quality Bi-Metal Cobalt HSS blade included.. Made from light-weight anodised Aluminium.	Made from light-weight anodised aluminium.

Product Code	Pack Quantity	Teeth per Inch	Material
HSB1218	2	18 Teeth Per Inch	Bi Metal HSS
HSB1224	2	24 Teeth Per Inch	Bi Metal HSS
HSB1232	2	32 Teeth Per Inch	Bi Metal HSS
HSBC1218	2	18 Teeth Per Inch	Bi Metal Cobalt HSS
HSBC1224	2	24 Teeth Per Inch	Bi Metal Cobalt HSS
HSBC1232	2	32 Teeth Per Inch	Bi Metal Cobalt HSS

Product Code	Size	Grit
CUTOFF-1501019-60	150 x 1.0 x 19.05	60
CUTOFF-1501631-46	150 x 1.6 x 31.75	46
CUTOFF-1501631-60	150 x 1.6 x 31.75	60
CUTOFF-1801631-46	180 x 1.6 x 31.75	46
CUTOFF-1801631-60	180 x 1.6 x 31.75	60
CUTOFF-2001631-46	200 x 1.6 x 31.75	46
CUTOFF-2001631-60	200 x 1.6 x 31.75	60



Surface Grinding Wheel - White Aluminium Oxide

Product Code	Size	Grit	Grade
GWW-1501331-46K	150 x 13 x 31.75	46	WA/38A
GWW-1501331-60K	150 x 13 x 31.75	60	WA/38A
GWW-1800631-46K	180 x 6 x 31.75	46	WA/38A
GWW-1800631-60K	180 x 6 x 31.75	60	WA/38A
GWW-1801331-46K	180 x 13 x 31.75	46	WA/38A
GWW-2001331-46K	200 x 13 x 31.75	46	WA/38A
GWW-2001331-60K	200 x 13 x 31.75	60	WA/38A
GWW-2002031-46J	200 x 20 x 31.75	46	WA/38A
GWW-2002031-60J	200 x 20 x 31.75	60	WA/38A
GWW-2002050-46J	200 x 20 x 50.8	46	WA/38A
GWW-2002050-60J	200 x 20 x 50.8	60	WA/38A
GWW-200253175-46K	200 x 25 x 31.75	46	WA/38A
GWW-200253175-60K	200 x 25 x 31.75	60	WA/38A
GWW-2002550-46J	200 x 25 x 50.8	46	WA/38A
GWW-2002550-60J	200 x 25 x 50.8	60	WA/38A
GWW-2502550-46J	250 x 25 x 50.8	46	WA/38A
GWW-2502576-46J	250 x 25 x 76.2	46	WA/38A
GWW-2502576-60J	250 x 25 x 76.2	60	WA/38A
GWW-3002576-46J	300 x 25 x 76.2	46	WA/38A
GWW-3002576-60K	300 x 25 x 76.2	60	WA/38A
GWW-30038127-46K	300 x 38 x 127	46	WA/38A (Recess one side)
GWW-35038127-46K	350 x 38 x 127	46	WA/38A (Recess one side)



Application - General Purpose

Material - Hard & Soft

Life - Standard

Surface Grinding Wheel - Blue Ceramic

Product Code	Size	Grit	Grade
GWB-1801331-46K	180 x 13 x 31.75	46	3CXG/3SG
GWB-1801331-60K	180 x 13 x 31.75	60	3CXG/3SG
GWB-2001331-46K	200 x 13 x 31.75	46	3CXG/3SG
GWB-2001331-60K	200 x 13 x 31.75	60	3CXG/3SG
GWB-35025127-46K	350 x 25 x 127	46	3CXG/3SG
GWB-35040127-46K	350 x 40 x 127	46	3CXG/3SG (Recess one side)
GWB-40050127-46J	400 x 50 x 127	46	3CXG/3SG



Application - Tool & Die Sharpening

Material - Hard (Tool steel/ HSS)

Life - Long Life



Product Code	Size	Grit	Grade
GWQ-2002031-461	200 x 20 x 31.75	46	NQ
GWQ-2002031-601	200 x 20 x 31.75	60	NQ
GWQ-3005076-46G	300 x 50 x 76	46	NQ (Recess 2 Sides)
GWQ-35040127-46G	350 x 40 x 127	46	NQ (Recess 1 Side)
GWQ-40050127-46F	400 x 50 x 127	46	NQ

Application - General Purpose

Material - Hard & Soft

Life - Extra Long Life

Diamond Dresser



Product Code	Diameter	Carat
DD035	3/8"	.05 Crt
DD045	1/2"	.05 Crt

Bench Grinding Wheel - Grey Aluminium Oxide



Product Code	Size	Grit	Grade
GWGY-1802531-A60	180 x 25 x 31.75	60	A60M
GWGY-2002031-A60	200 x 20 x 31.75	60	A60M
GWGY-2002531-A36	200 x 20 x 31.75	36	A36P
GWGY-2002531-A46	200 x 20 x 31.75	46	A46M
GWGY-2002531-A60	200 x 20 x 31.75	60	A60M
GWYG-200253175-A36	200 x 25 x 31.75	36	A36M
GWYG-200253175-A46	200 x 25 x 31.75	46	A46M
GWYG-200253175-A60	200 x 25 x 31.75	60	A60M

Application - General Purpose

Material - Soft

Life - Standard

Bench Grinding Wheel - Green Silicone Carbide



Product Code	Size	Grit	Grade
GWGN-1802531-60K	180 x 25 x 31.75	60	GC
GWGN-2002531-60K	200 x 25 x 31.75	60	GC
GWGN-2002531-80K	200 x 25 x 31.75	80	GC

Application - Carbide Tooling

Material - Hard (Carbide)

Life - Standard

Product Code	Size	Colour
DS-25	25mm sq x 150mm	Dark Grey



Economy Rolls

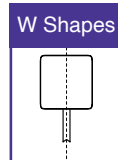
Width 25mm		Width 40mm		Width 50mm	
Product Code	Grit	Product Code	Grit	Product Code	Grit
ER25060	60	ER40060	60	ER50060	60
ER25080	80	ER40080	80	ER50080	80
ER25120	120	ER40120	120	ER50100	100
ER25180	180	ER40180	180	ER50120	120
ER25240	240	ER40240	240	ER50180	180
ER25320	320	ER40320	320	ER50240	240
				ER50320	320



Wet & Dry Sheets

Product Code	Grit	Product Code	Grit
WD0080	80	WD0320	320
WD0100	100	WD0400	400
WD0120	120	WD0500	500
WD0150	150	WD0600	600
WD0180	180	WD0800	800
WD0220	220	WD1000	1000
WD0240	240	WD1200	1200
WD0280	280		





"W" Shapes

All W Shapes are basically rectangular or square. The diameter and thickness are shown in the table below.

Product Code	Diameter	Thick	Mandrel	Grit
MPW142	3/32	1/4	1/8	60
MPW144	1/8	1/4	1/8	60
MPW145	1/8	3/8	1/8	60
MPW146	1/8	1/2	1/8	60
MPW149	5/32	1/4	1/8	60
MPW153	3/16	3/8	1/8	60
MPW154	3/16	1/2	1/8	60
MPW160	1/4	1/4	1/8	80
MPW162	1/4	3/8	1/8	60
MPW163	1/4	1/2	1/8	60
MPW164	1/4	3/4	1/8	100
MPW170	5/16	1/2	1/8	60
MPW176	3/8	1/2	1/8	60
MPW177	3/8	3/4	1/8	60
MPW185	1/2	1/2	1/8	80
MPW220	1	1	1/4	60

Mounted Points

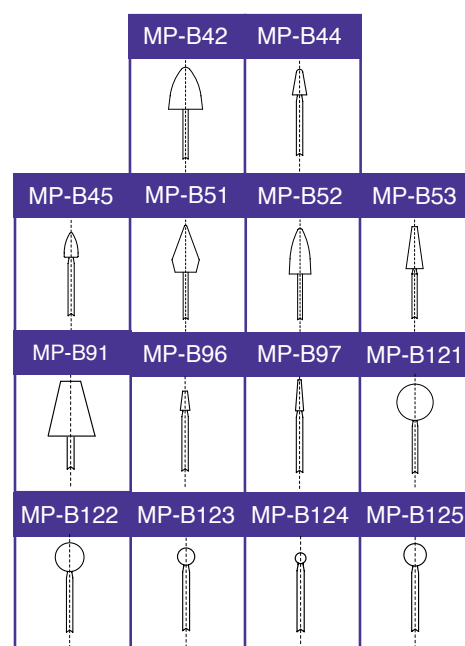


"B" Shapes

B Shapes vary in shape and size, see diagrams.

The diameter and thickness are shown in the table below.

Product Code	Diameter	Thick	Mandrel	Grit
MPB42	1/2	3/4	1/8	60
MPB44	7/32	3/8	1/8	60
MPB45	3/16	5/16	1/8	60
MPB51	7/16	3/4	1/8	80
MPB52	3/8	3/4	1/8	60
MPB53	1/4	5/8	1/8	60
MPB97	1/8	3/8	1/8	60
MPB121	1/2	1/2	1/8	120
MPB122	3/8	3/8	1/8	120
MPB123	3/16	3/16	1/8	60
MPB125	1/4	1/4	1/8	60
MPB132	3/8	1/2	1/8	60
MPB135	1/4	1/2	1/8	60





Product Code	Description	Package Size
MPSET	Pink Mounted Points	Box of 48 pieces

Diamond Point Sets



Product Code	Description
DP	30 Medium grit diamond plated mounted points picked to suit the toolmaker, sold in a plastic case.

Diamond Rubbing Points



Product Code	Diameter	Overall Length	Grit	Colour
RP04080	4 mm	13 mm	80	Orange
RP06120	6 mm	17 mm	120	Green
RP06180	6 mm	17 mm	180	Yellow
RP08080	8 mm	20 mm	80	Orange
RP08120	8 mm	20 mm	120	Green
RP08180	8 mm	20 mm	180	Yellow
RP10080	10 mm	20 mm	80	Orange
RP10120	10 mm	20 mm	120	Green
RP10180	10 mm	20 mm	180	Yellow
RP13080	13 mm	20 mm	80	Orange
RP20080	20 mm	25 mm	80	Orange
RP20120	20 mm	25 mm	120	Green
RP20180	20 mm	25 mm	180	Yellow



The ultimate in precision air grinders, 64,000 RPM.
Ideal for quality tool room work.
Suits 1/8" shank

Product Code	Description	RPM
AG	Straight Premium Grinder	64,000

Economy Air Grinder



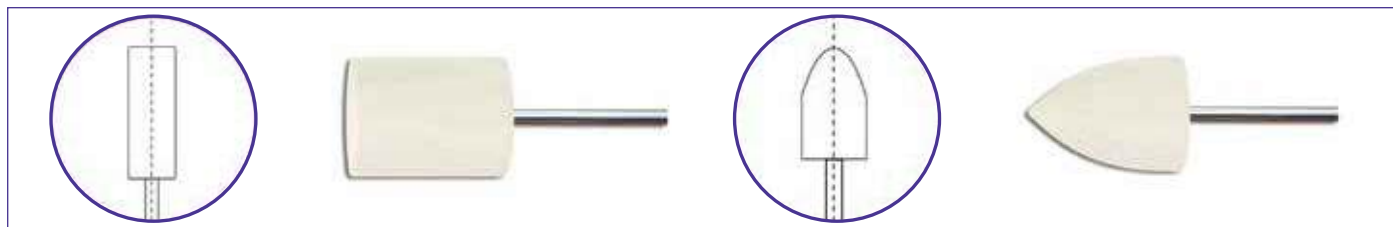
Economy Air Grinder is ideal for tool room work.
Suits 3mm and 1/8" shank

Product Code	Description	RPM
LDG5202	Straight Economy Grinder	54,000

120° Angle Pad Grinder



Product Code	Description	RPM
LDG57101	120° Pad Grinder	22,000



FB = Standard Felt Bob

Product Code	Dia.	Overall Length	Shank Size
FB1414	1/4	1/4	1/8
FB14516	1/4	5/16	1/8
FB3838	3/8	3/8	1/8
FB1212	1/2	1/2	1/8
FB121	1/2	1	1/8
FB3434	3/4	3/4	1/8
FB11	1	1	1/4

FBH = Hard Felt Bob

Product Code	Dia.	Overall Length	Shank Size
FBH1414	1/4	1/4	1/8
FBH3838	3/8	3/8	1/8
FBH1212	1/2	1/2	1/8
FBH3434	3/4	3/4	1/8

FC = Standard Felt Cone

Product Code	Dia.	Overall Length	Shank Size
FC14	1/4	5/8	1/8
FC24	3/8	7/8	1/8
FC12	1/2	1	1/8
FC58	5/8	1 1/4	1/8

Diamond Paste



Product Code	Microns	Colour	Description
DP01	1 Micron	Light Blue	The Superfine grade is for those applications which demand the highest possible accuracy and mirror finish.
DP03	3 Micron	Green	
DP06	6 Micron	Yellow	
DP09	9 Micron	Red	The Medium grades ensure a perfect intermediate surface for finishing to a high grade commercial polish with the Find grades.
DP15	15 Micron	Light Brown	
DP30	30 Micron	Dark Brown	
DP45	45 Micron	Purple	The Coarse and Extra Coarse grades ensure rapid stock removal for eliminating machining marks, deep scratches or blemishes.
DP60	60 Micron	Orange	

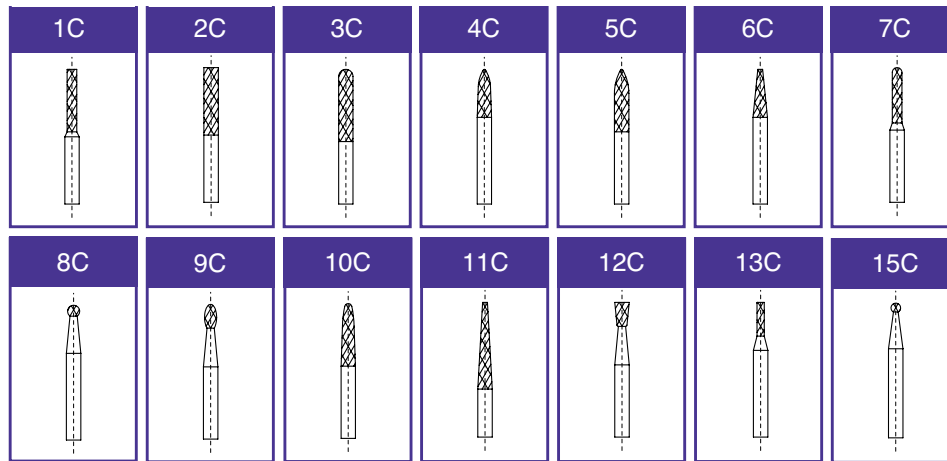
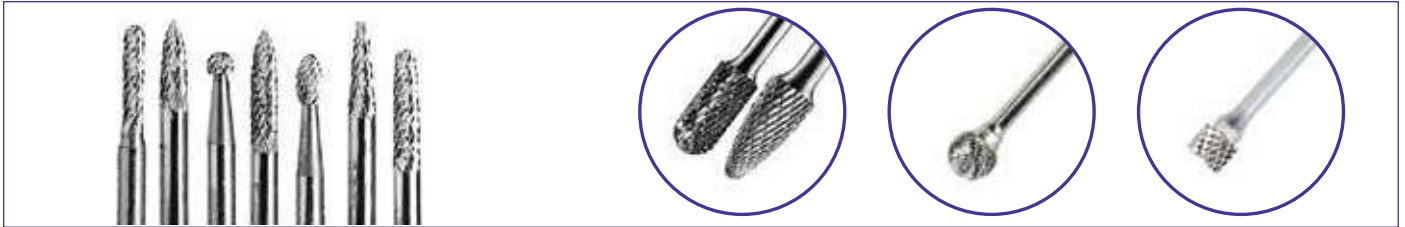
Diamond Thinner



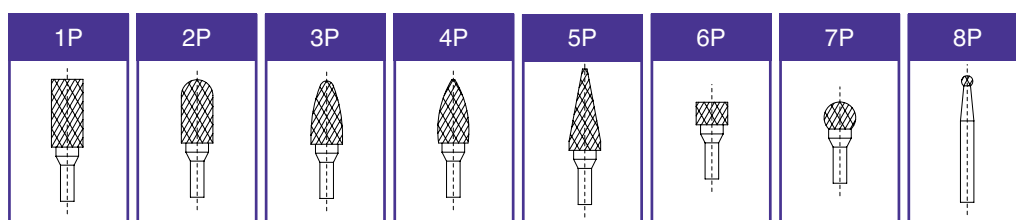
Diamond Thinner is used to thin the slurry, extend the diamond compound and reduce gumming. It offers excellent surface tension and adhesion to tool surfaces.

The precise blend of natural diamond offers unsurpassed cutting capability, toughness and extended durability resulting in superior finishing. DIAMAX is a medium-heavy concentration that is both water and oil soluble.

Product Code	Volume
DPT04	4 oz. (118 ml)
DPT16	16 oz. (475 ml)



Product Code	Shank Dia.	Cutting Dia.	Flute Length
1C	1/8"	3/32"	7/16"
2C	1/8"	1/8"	9/16"
3C	1/8"	1/8"	9/16"
4C	1/8"	1/8"	3/8"
5C	1/8"	1/8"	1/2"
6C	1/8"	1/8"	1 1/32"
7C	1/8"	3/32"	7/16"
8C	1/8"	1/8"	1/8"
9C	1/8"	1/8"	7/32"
10C	1/8"	1/8"	1/2"
11C	1/8"	1/8"	5/8"
12C	1/8"	1/8"	3/16"
13C	1/8"	1/16"	1/4"
15C	1/8"	3/32"	3/32"



Product Code	Shank Dia.	Cutting Dia.	Flute Length
1P	1/8"	1/4"	1/2"
2P	1/8"	1/4"	1/2"
3P	1/8"	1/4"	1/2"
4P	1/8"	1/4"	1/2"
5P	1/8"	1/4"	1/2"
7P	1/8"	1/4"	1/4"
8P	1/8"	1/4"	3/8"



10
Piece
Set



9
Piece
Set

Product Code	Description	Package
BURSET1#	10 pcs 1/8"	Plastic Case
BURSET5#	9 pcs 1/4"	Plastic Case

Ceramic Super Stones and Stone Holder



- Made from long ceramic fibres embedded in the thermoset resin.
- Exhibit superior strength compared to normal abrasive stones
- High tensile strength yet can be flexed without breaking
- Incomparable polishing ability, producing fine surface finish with minimal wear
- Used with ultrasonic polishers, offer aggressive stock removal

Product Code	Size	Grits	Colour
CSSEM102L	1 X 2 X 150	120	Emerald
CSSEM106L	1 X 6 X 150	120	Emerald
CSSEM110L	1 X 10 X 150	120	Emerald
CSSG102L	1 X 2 X 150	180	Gold
CSSG106L	1 X 6 X 150	180	Gold
CSSG110L	1 X 10 X 150	180	Gold
CSSLB102L	1 X 2 X 150	300	Light Brown
CSSLB106L	1 X 6 X 150	300	Light Brown
CSSLB110L	1 X 10 X 150	300	Light Brown
CSSOR102L	1 X 2 X 150	400	Orange
CSSOR106L	1 X 6 X 150	400	Orange
CSSOR110L	1 X 10 X 150	400	Orange
CSSBR102L	1 X 2 X 150	600	Brown
CSSBR106L	1 X 6 X 150	600	Brown
CSSBR110L	1 X 10 X 150	600	Brown
CSSB102L	1 X 2 X 150	800	Blue
CSSB106L	1 X 6 X 150	800	Blue
CSSB110L	1 X 10 X 150	800	Blue
CSSW102L	1 X 2 X 150	1000	White
CSSW106L	1 X 6 X 150	1000	White
CSSW110L	1 X 10 X 150	1000	White
CSSR102L	1 X 2 X 150	1200	Red
CSSR106L	1 X 6 X 150	1200	Red
CSSR110L	1 X 10 X 150	1200	Red



Product Code	Description
SSH2	Holder to suit 2mm stones
SSH6	Holder to suit 6mm stones
SSH10	Holder to suit 10mm stones



AM2 Polishing Stone

Most popular all-round finishing stone, suitable for all types of mould & die steels.
Grits: 100, 150, 180, 220, 320, 400, 600, 900

Product Code	Description	Grits
AM21818150	1/8 X 1/8 X 150 Am2 Stone	150#
AM21818220	1/8 X 1/8 X 220 Am2 Stone	220#
AM21818320	1/8 X 1/8 X 320 Am2 Stone	320#
AM21818400	1/8 X 1/8 X 400 Am2 Stone	400#
AM21818600	1/8 X 1/8 X 600 Am2 Stone	600#
AM21814150	1/8 X 1/4 X 150 Am2 Stone	150#
AM21814220	1/8 X 1/4 X 220 Am2 Stone	220#
AM21814320	1/8 X 1/4 X 320 Am2 Stone	320#
AM21814400	1/8 X 1/4 X 400 Am2 Stone	400#
AM21814600	1/8 X 1/4 X 600 Am2 Stone	600#
AM21814150	1/8 X 1/4 X 150 Am2 Stone	150#
AM21814220	1/8 X 1/4 X 220 Am2 Stone	220#
AM21814320	1/8 X 1/4 X 320 Am2 Stone	320#
AM21814400	1/8 X 1/4 X 400 Am2 Stone	400#
AM21814600	1/8 X 1/4 X 600 Am2 Stone	600#
AM21812100	1/8 X 1/2 X 100 Am2 Stone	100#
AM21812150	1/8 X 1/2 X 150 Am2 Stone	150#
AM21812220	1/8 X 1/2 X 220 Am2 Stone	220#
AM21812320	1/8 X 1/2 X 320 Am2 Stone	320#
AM21812400	1/8 X 1/2 X 400 Am2 Stone	400#
AM21812600	1/8 X 1/2 X 600 Am2 Stone	600#
AM21812900	1/8 X 1/2 X 900 Am2 Stone	900#
AM2181320	1/8 X 1 X 320 Am2 Stone	320#
AM2181400	1/8 X 1 X 400 Am2 Stone	400#
AM2181600	1/8 X 1 X 600 Am2 Stone	600#
AM21414100	1/4 X 1/4 X 100 Am2 Stone	100#
AM21414150	1/4 X 1/4 X 150 Am2 Stone	150#
AM21414180	1/4 X 1/4 X 180 Am2 Stone	180#
AM21414220	1/4 X 1/4 X 220 Am2 Stone	220#
AM21414320	1/4 X 1/4 X 320 Am2 Stone	320#
AM21414400	1/4 X 1/4 X 400 Am2 Stone	400#
AM21414600	1/4 X 1/4 X 600 Am2 Stone	600#
AM21414900	1/4 X 1/4 X 900 Am2 Stone	900#
AM21412100	1/4 X 1/2 X 100 Am2 Stone	100#
AM21412150	1/4 X 1/2 X 150 Am2 Stone	150#
AM21412180	1/4 X 1/2 X 180 Am2 Stone	180#
AM21412220	1/4 X 1/2 X 220 Am2 Stone	220#
AM21412320	1/4 X 1/2 X 320 Am2 Stone	320#
AM21412400	1/4 X 1/2 X 400 Am2 Stone	400#
AM21412600	1/4 X 1/2 X 600 Am2 Stone	600#
AM2141100	1/4 X 1 X 100 Am2 Stone	100#
AM2141150	1/4 X 1 X 150 Am2 Stone	150#
AM2141220	1/4 X 1 X 220 Am2 Stone	220#



AM2 Polishing Stone

Most popular all-round finishing stone, suitable for all types of mould & die steels.

Grits: 100, 150, 180, 220, 320, 400, 600, 900

Product Code	Description	Grits
AM2141320	1/4 X 1 X 320 Am2 Stone	320#
AM2141400	1/4 X 1 X 400 Am2 Stone	400#
AM2141600	1/4 X 1 X 600 Am2 Stone	600#
AM23838150	3/8 X 3/8 X 150 Am2 Stone	150#
AM23838220	3/8 X 3/8 X 220 Am2 Stone	220#
AM21212100	1/2 X 1/2 X 100 Am2 Stone	100#
AM21212150	1/2 X 1/2 X 150 Am2 Stone	150#
AM21212220	1/2 X 1/2 X 220 Am2 Stone	220#
AM21212320	1/2 X 1/2 X 320 Am2 Stone	320#
AM21212400	1/2 X 1/2 X 400 Am2 Stone	400#
AM21212600	1/2 X 1/2 X 600 Am2 Stone	600#
AM2121100	1/2 X 1 X 100 Am2 Stone	100#
AM2121150	1/2 X 1 X 150 Am2 Stone	150#
AM2121220	1/2 X 1 X 220 Am2 Stone	220#
AM2121320	1/2 X 1 X 320 Am2 Stone	320#
AM2121400	1/2 X 1 X 400 Am2 Stone	400#
AM2121600	1/2 X 1 X 600 Am2 Stone	600#
AM211100	1 X 1 X 100 Am2 Stone	100#
AM211150	1 X 1 X 150 Am2 Stone	150#
AM211220	1 X 1 X 220 Am2 Stone	220#
AM211320	1 X 1 X 320 Am2 Stone	320#

Boride Polishing Stones - AM2 -Round



AM2 Polishing Stone - Round

Most popular all-round finishing stone, suitable for all types of mould & die steels.

Grits: 220 & 320

Product Code	Description	Grits
AM2-14R220	1/4 X 220 Am2 Round Stone	220#
AM2-14R320	1/4 X 320 Am2 Round Stone	320#
AM2-38R220	3/8 X 220 Am2 Round Stone	220#
AM2-38R320	3/8 X 320 Am2 Round Stone	320#
AM2-12R220	1/2 X 220 Am2 Round Stone	220#
AM2-12R320	1/2 X 320 Am2 Round Stone	320#



AM8 Polishing Stone

Removes EDM scale, suitable for all types of mould & die steels.

Grits: 100, 120, 150, 180, 220, 320, 400, 600

Product Code	Description	Grits
AM81814150	1/8 X 1/4 X 150 Am8 Stone	150#
AM81814220	1/8 X 1/4 X 220 Am8 Stone	220#
AM81814320	1/8 X 1/4 X 320 Am8 Stone	320#
AM81814400	1/8 X 1/4 X 400 Am8 Stone	400#
AM81814600	1/8 X 1/4 X 600 Am8 Stone	600#
AM81812100	1/8 X 1/2 X 100 Am8 Stone	100#
AM81812120	1/8 X 1/2 X 120 Am8 Stone	120#
AM81812150	1/8 X 1/2 X 150 Am8 Stone	150#
AM81812220	1/8 X 1/2 X 220 Am8 Stone	220#
AM81812320	1/8 X 1/2 X 320 Am8 Stone	320#
AM81812400	1/8 X 1/2 X 400 Am8 Stone	400#
AM81812600	1/8 X 1/2 X 600 Am8 Stone	600#
AM81414100	1/4 X 1/4 X 100 Am8 Stone	100#
AM81414150	1/4 X 1/4 X 150 Am8 Stone	150#
AM81414220	1/4 X 1/4 X 220 Am8 Stone	220#
AM81414320	1/4 X 1/4 X 320 Am8 Stone	320#
AM81414400	1/4 X 1/4 X 400 Am8 Stone	400#
AM81414600	1/4 X 1/4 X 600 Am8 Stone	600#
AM81412100	1/4 X 1/2 X 100 Am8 Stone	100#
AM81412120	1/4 X 1/2 X 120 Am8 Stone	120#
AM81412150	1/4 X 1/2 X 150 Am8 Stone	150#
AM81412220	1/4 X 1/2 X 220 Am8 Stone	220#
AM81412320	1/4 X 1/2 X 320 Am8 Stone	320#
AM81412400	1/4 X 1/2 X 400 Am8 Stone	400#
AM81412600	1/4 X 1/2 X 600 Am8 Stone	600#

Boride Polishing Stones - CS



CS Polishing Stone Fast cutting black silicone carbide general purpose polishing stone, used on all tool steels as well as used for roughing out on non-ferrous materials. Grits: 100, 120, 150, 180, 220, 320, 400, 600

Product Code	Description	Grits	Product Code	Description	Grits
CS1814150	1/8 X 1/4 X 150 CS Stone	150#	CS1414400	1/4 X 1/4 X 400 CS Stone	400#
CS1812150	1/8 X 1/2 X 150 CS Stone	150#	CS1412150	1/4 X 1/2 X 150 CS Stone	150#
CS1812180	1/8 X 1/2 X 220 CS Stone	220#	CS1412220	1/4 X 1/2 X 220 CS Stone	220#
CS1812320	1/8 X 1/2 X 320 CS Stone	320#	CS1412320	1/4 X 1/2 X 320 CS Stone	320#
CS1812400	1/8 X 1/2 X 400 CS Stone	400#	CS1212150	1/2 X 1/2 X 150 CS Stone	150#
CS1812600	1/8 X 1/2 X 600 CS Stone	600#	CS1212220	1/2 X 1/2 X 220 CS Stone	220#
CS1414150	1/4 X 1/4 X 150 CS Stone	150#	CS1212320	1/2 X 1/2 X 320 CS Stone	320#
CS1414320	1/4 X 1/4 X 320 CS Stone	320#	CS11600-M	1 X 1 X 600 CS Stone	600#



T2 Polishing Stone is a medium-hard aluminium oxide stone that cuts very fast yet provides a silky smooth finish on quality mould steel such as P-20, H-13 & 420
Grits: 150, 220, 320, 400, 600

Product Code	Description	Grits
T21814150	1/8 X 1/4 X 150 T2 Stone	150#
T21814220	1/8 X 1/4 X 220 T2 Stone	220#
T21812150	1/8 X 1/2 X 150 T2 Stone	150#
T21812220	1/8 X 1/2 X 220 T2 Stone	220#
T21414150	1/4 X 1/4 X 150 T2 Stone	150#
T21414220	1/4 X 1/4 X 220 T2 Stone	220#
T21414320	1/4 X 1/4 X 320 T2 Stone	320#
T21414400	1/4 X 1/4 X 400 T2 Stone	400#
T21414600	1/4 X 1/4 X 600 T2 Stone	600#
T21412150	1/4 X 1/2 X 150 T2 Stone	150#
T21412220	1/4 X 1/2 X 220 T2 Stone	220#
T21412320	1/4 X 1/2 X 320 T2 Stone	320#
T21412400	1/4 X 1/2 X 400 T2 Stone	400#
T21412600	1/4 X 1/2 X 600 T2 Stone	600#

Polishing Lubricant



For mould polishing to clean, lubricate and prevent stone loading.
Water based, odour free and easy to clean.

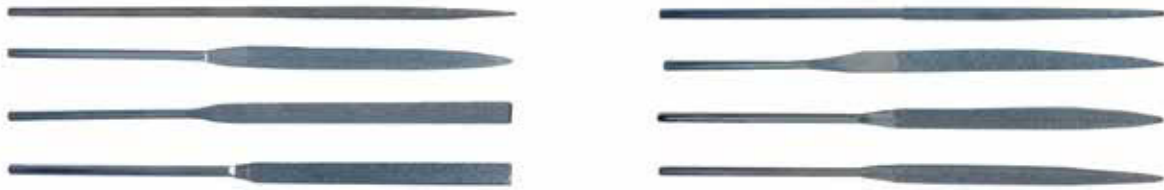
Product Code	Size
ABORI-LARGE	1 Gallon (3.78 L)

Combination Stone



Aluminium oxide combination stone with a fine side for finishing
and a coarse side for re-grinding.

Product Code	Size - inches	Material
COMSTONE-S	5/8" x 1 5/8" x 4 1/2"	Aluminium Oxide
COMSTONE-L	1" x 2" x 8"	Aluminium Oxide



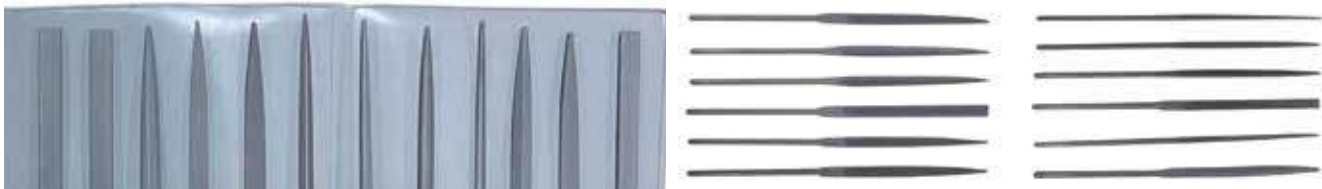
Product Code	Description	Shank Dia.	Overall Length
DFILE1	Square Diamond Needle File	3mm	140mm
DFILE2	Half Round Diamond Needle File	3mm	140mm
DFILE3	Triangular Diamond Needle File	3mm	140mm
DFILE4	Flat Diamond Needle File	3mm	140mm
DFILE5	Round Diamond Needle File	3mm	140mm
DFILE6	Knife Diamond Needle File	3mm	140mm
DFILE7	Lozenge Diamond Needle File	3mm	140mm
DFILE9	Oval Diamond Needle File	3mm	140mm

Diamond Riffler File Set



Product Code	Description
DR	10 pc Set in Plastic Pouch

Hand Needle File Set



Product Code	Description
NFS	12 pc Set in Plastic Pouch



Product Code	Description	Length
WF061	Smooth Flat File	6"
WF062	2nd Cut Flat File	6"
WF063	Bastard Flat File	6"
WF081	Smooth Flat File	8"
WF082	2nd Cut Flat File	8"
WF083	Bastard Flat File	8"

Product Code	Description	Length
WF101	Smooth Flat File	10"
WF102	2nd Cut Flat File	10"
WF103	Bastard Flat File	10"
WF121	Smooth Flat File	12"
WF122	2nd Cut Flat File	12"
WF123	Bastard Flat File	12"

Hand File



Product Code	Description	Length
WH061	Smooth Hand File	6"
WH062	2nd Cut Hand File	6"
WH063	Bastard Hand File	6"
WH081	Smooth Hand File	8"
WH082	2nd Cut Hand File	8"
WH083	Bastard Hand File	8"

Product Code	Description	Length
WH101	Smooth Hand File	10"
WH102	2nd Cut Hand File	10"
WH103	Bastard Hand File	10"
WH121	Smooth Hand File	12"
WH122	2nd Cut Hand File	12"
WH123	Bastard Hand File	12"

Half Round File



Product Code	Description	Length
WZ041	Smooth Half Round File	4"
WZ042	2nd Cut Half Round File	4"
WZ043	Bastard Half Round File	4"
WZ061	Smooth Half Round File	6"
WZ062	2nd Cut Half Round File	6"
WZ063	Bastard Half Round File	6"
WZ081	Smooth Half Round File	8"
WZ082	2nd Cut Half Round File	8"

Product Code	Description	Length
WZ083	Bastard Half Round File	8"
WZ101	Smooth Half Round File	10"
WZ102	2nd Cut Half Round File	10"
WZ103	Bastard Half Round File	10"
WZ121	Smooth Half Round File	12"
WZ122	2nd Cut Half Round File	12"
WZ123	Bastard Half Round File	12"



Product Code	Description	Length
WT061	Smooth 3 Square File	6"
WT062	2nd Cut 3 Square File	6"
WT082	2nd Cut 3 Square File	8"

Square Hand File



Product Code	Description	Length
WS061	Smooth Square File	6"
WS062	2nd Cut Square File	6"
WS063	Bastard Square File	6"
WS081	Smooth Square File	8"
WS082	2nd Cut Square File	8"
WS083	Bastard Square File	8"

Product Code	Description	Length
WS101	Smooth Square File	10"
WS102	2nd Cut Square File	10"
WS103	Bastard Square File	10"
WS121	Smooth Square File	12"
WS122	2nd Cut Square File	12"
WS123	Bastard Square File	12"

Round Hand File



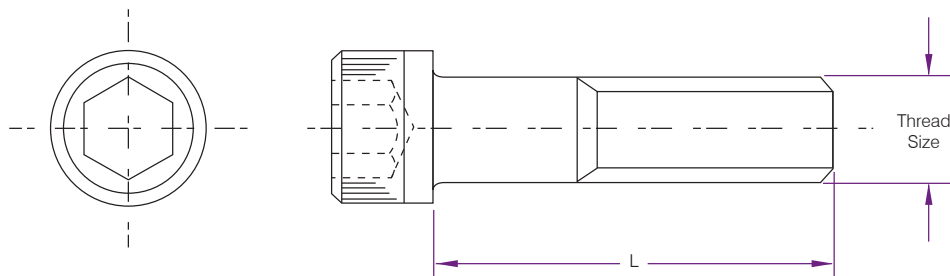
Product Code	Description	Length
WR061	Smooth Round File	6"
WR062	2nd Cut Round File	6"
WR063	Bastard Round File	6"
WR081	Smooth Round File	8"
WR082	2nd Cut Round File	8"
WR083	Bastard Round File	8"

Product Code	Description	Length
WR101	Smooth Round File	10"
WR102	2nd Cut Round File	10"
WR103	Bastard Round File	10"
WR121	Smooth Round File	12"
WR122	2nd Cut Round File	12"
WR123	Bastard Round File	12"

Plastic Handles for Hand Files



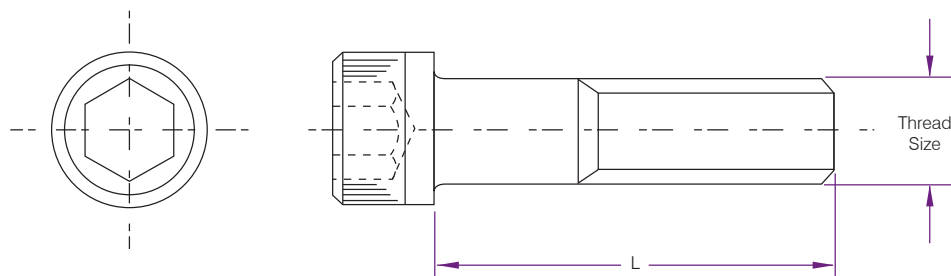
Product Code	Description	Length
WT061	Suits 4 inch-6 inch files	4"
WT062	Suits 8 inch-10 inch files	5"
WT082	Suits 10 inch-12 inch files	8"



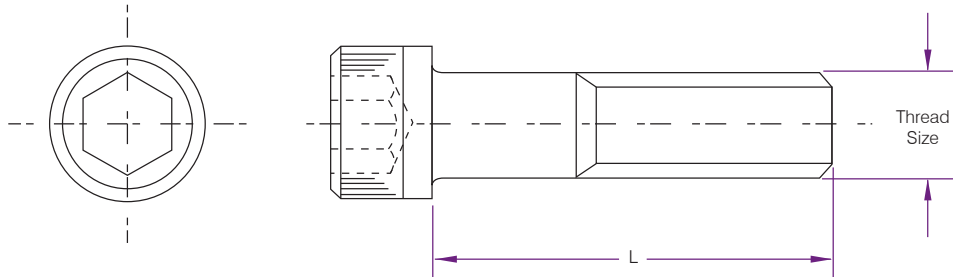
METRIC						
Length	M2	M3	M4	M5	M6	M8
5		UCAP3M05	UCAP4M05			
6		UCAP3M06	UCAP4M06	UCAP5M06		
8		UCAP3M08	UCAP4M08	UCAP5M08	UCAP6M08	
10		UCAP3M10	UCAP4M10	UCAP5M10	UCAP6M10	UCAP8M10
12	UCAP2M12	UCAP3M12	UCAP4M12	UCAP5M12	UCAP6M12	UCAP8M12
16		UCAP3M16	UCAP4M16	UCAP5M16	UCAP6M16	UCAP8M16
20		UCAP3M20	UCAP4M20	UCAP5M20	UCAP6M20	UCAP8M20
25		UCAP3M25	UCAP4M25	UCAP5M25	UCAP6M25	UCAP8M25
30		UCAP3M30	UCAP4M30	UCAP5M30	UCAP6M30	UCAP8M30
35		UCAP3M35	UCAP4M35	UCAP5M35	UCAP6M35	UCAP8M35
40			UCAP4M40	UCAP5M40	UCAP6M40	UCAP8M40
45			UCAP4M45	UCAP5M45	UCAP6M45	UCAP8M45
50			UCAP4M50	UCAP5M50	UCAP6M50	UCAP8M50
55				UCAP5M55	UCAP6M55	UCAP8M55
60				UCAP5M60	UCAP6M60	UCAP8M60
65				UCAP5M65	UCAP6M65	UCAP8M65
70				UCAP5M70	UCAP6M70	UCAP8M70
75					UCAP6M75	UCAP8M75
80				UCAP5M80	UCAP6M80	UCAP8M80
90				UCAP5M90	UCAP6M90	UCAP8M90
100					UCAP6M100	UCAP8M100
110					UCAP6M110	UCAP8M110
120					UCAP6M120	UCAP8M120
130						UCAP8M130
140					UCAP6M140	UCAP8M140
150						UCAP8M150
160						UCAP8M160
180						UCAP8M180



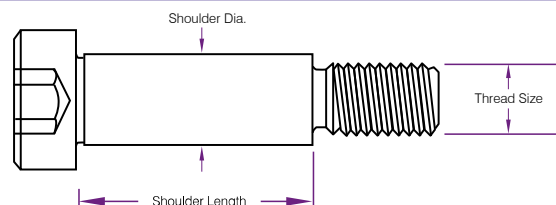
METRIC					
Length	M10	M12	M14	M16	M18
10	UCAP10M10				
12	UCAP10M12	UCAP12M12			
16	UCAP10M16	UCAP12M16			
20	UCAP10M20	UCAP12M20			
25	UCAP10M25	UCAP12M25	UCAP14M25	UCAP16M25	
30	UCAP10M30	UCAP12M30	UCAP14M30	UCAP16M30	
35	UCAP10M35	UCAP12M35	UCAP14M35	UCAP16M35	
40	UCAP10M40	UCAP12M40	UCAP14M40	UCAP16M40	
45	UCAP10M45	UCAP12M45	UCAP14M45	UCAP16M45	
50	UCAP10M50	UCAP12M50	UCAP14M50	UCAP16M50	UCAP18M50
55	UCAP10M55	UCAP12M55	UCAP14M55	UCAP16M55	
60	UCAP10M60	UCAP12M60	UCAP14M60	UCAP16M60	
65	UCAP10M65	UCAP12M65	UCAP14M65	UCAP16M65	
70	UCAP10M70	UCAP12M70	UCAP14M70	UCAP16M70	
75	UCAP10M75	UCAP12M75	UCAP14M75	UCAP16M75	
80	UCAP10M80	UCAP12M80	UCAP14M80	UCAP16M80	
90	UCAP10M90	UCAP12M90	UCAP14M90	UCAP16M90	
100	UCAP10M100	UCAP12M100	UCAP14M100	UCAP16M100	
110	UCAP10M110	UCAP12M110	UCAP14M110	UCAP16M110	
120	UCAP10M120	UCAP12M120	UCAP14M120	UCAP16M120	
130	UCAP10M130	UCAP12M130	UCAP14M130	UCAP16M130	
140	UCAP10M140	UCAP12M140	UCAP14M140	UCAP16M140	
150	UCAP10M150	UCAP12M150	UCAP14M150	UCAP16M150	
160	UCAP10M160	UCAP12M160	UCAP14M160	UCAP16M160	
170	UCAP10M170	UCAP12M170	UCAP14M170	UCAP16M170	
180	UCAP10M180	UCAP12M180	UCAP14M180	UCAP16M180	
190	UCAP10M190	UCAP12M190	UCAP14M190	UCAP16M190	
200	UCAP10M200	UCAP12M200	UCAP14M200	UCAP16M200	
220		UCAP12M220	UCAP14M220	UCAP16M220	
230		UCAP12M230	UCAP14M230		
240		UCAP12M240		UCAP16M240	
250		UCAP12M250	UCAP14M250	UCAP16M250	
260				UCAP16M260	
300			UCAP14M300	UCAP16M300	
320			UCAP14M320		
340			UCAP14M2340		



METRIC						
Length	M20	M22	M24	M27	M30	M36
30	UCAP20M30					
35	UCAP20M35					
40	UCAP20M40		UCAP24M40			
45	UCAP20M45		UCAP24M45			
50	UCAP20M50		UCAP24M50			
55	UCAP20M55		UCAP24M55			
60	UCAP20M60		UCAP24M60			
65	UCAP20M65		UCAP24M65			
70	UCAP20M70		UCAP24M70			
75	UCAP20M75		UCAP24M75			
80	UCAP20M80		UCAP24M80	UCAP27M80	UCAP30M80	UCAP36M80
90	UCAP20M90		UCAP24M90	UCAP27M90	UCAP30M90	UCAP36M90
100	UCAP20M100		UCAP24M100	UCAP27M100	UCAP30M100	UCAP36M100
110	UCAP20M110	UCAP22M110	UCAP24M110	UCAP27M110	UCAP30M110	UCAP36M110
120	UCAP20M120		UCAP24M120	UCAP27M120	UCAP30M120	UCAP36M120
130	UCAP20M130	UCAP22M130	UCAP24M130		UCAP30M130	UCAP36M130
140	UCAP20M140		UCAP24M140	UCAP27M140	UCAP30M140	UCAP36M140
150	UCAP20M150		UCAP24M150	UCAP27M150	UCAP30M150	UCAP36M150
160	UCAP20M160		UCAP24M160		UCAP30M160	
180	UCAP20M180		UCAP24M180	UCAP27M180	UCAP30M180	UCAP36M180
200	UCAP20M200		UCAP24M200	UCAP27M200	UCAP30M200	UCAP36M200
220	UCAP20M220		UCAP24M220		UCAP30M220	
240	UCAP20M240		UCAP24M240		UCAP30M240	UCAP36M240
260	UCAP20M260		UCAP24M260		UCAP30M260	UCAP36M260
280	UCAP20M280		UCAP24M280		UCAP30M280	UCAP36M280
300	UCAP20M300		UCAP24M300		UCAP30M300	UCAP36M300
320			UCAP24M320		UCAP30M320	
340			UCAP24M340		UCAP30M340	
360					UCAP30M360	



IMPERIAL									
Length	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1"
1/4		UCAP31614	UCAP1414						
3/8	UCAP1838	UCAP31638	UCAP1438	UCAP51638					
1/2	UCAP1812	UCAP31612	UCAP1412	UCAP51612	UCAP3812		UCAP5812	UCAP3412	
5/8		UCAP31658	UCAP1458	UCAP51658	UCAP3858	UCAP1258			
3/4	UCAP1834	UCAP31634	UCAP1434	UCAP51634	UCAP3834	UCAP1234			
7/8			UCAP1478	UCAP51678					
1	UCAP181	UCAP3161	UCAP141	UCAP5161	UCAP381	UCAP121	UCAP581		
1 1/4		UCAP316114	UCAP14114	UCAP516114	UCAP38114	UCAP12114	UCAP58114	UCAP34114	
1 1/2		UCAP316112	UCAP14112	UCAP51614	UCAP38112	UCAP12112	UCAP58112	UCAP34112	UCAP1112
1 3/4		UCAP316134	UCAP14134	UCAP516134	UCAP38134	UCAP12134	UCAP58134	UCAP34134	
2		UCAP3162	UCAP142	UCAP5162	UCAP382	UCAP122	UCAP582	UCAP342	UCAP12
2 1/4			UCAP14214	UCAP516214	UCAP38214	UCAP12214	UCAP58214	UCAP34214	
2 1/2		UCAP316212	UCAP14212	UCAP516212	UCAP38212	UCAP12212	UCAP58212	UCAP34212	UCAP1212
2 3/4			UCAP14234	UCAP516234	UCAP38234	UCAP12234			
3			UCAP143	UCAP5163	UCAP383	UCAP123	UCAP583	UCAP343	UCAP13
3 1/4			UCAP14314	UCAP516314	UCAP38314	UCAP12314			
3 1/2			UCAP14312	UCAP516312	UCAP38312	UCAP12312	UCAP58312	UCAP34312	UCAP1312
4			UCAP144	UCAP5164	UCAP384	UCAP124	UCAP584	UCAP344	UCAP14
4 1/2				UCAP516412	UCAP38412	UCAP12412	UCAP58412	UCAP34412	
5					UCAP385	UCAP125	UCAP585	UCAP345	UCAP15
5 1/2					UCAP38512	UCAP12512	UCAP58512	UCAP34512	
6					UCAP386	UCAP126	UCAP586	UCAP346	UCAP16
6 1/2						UCAP12612	UCAP58612	UCAP34612	
7						UCAP127	UCAP587	UCAP347	UCAP17
8						UCAP128	UCAP588	UCAP348	UCAP18
9								UCAP349	UCAP19



METRIC							
Shoulder Length	Shoulder Dia. (Thread Size)						
	6mm (M5)	8mm (M6)	10mm (M8)	12mm (M10)	16mm (M12)	20mm (M16)	24mm (M20)
10	USS6M10						
12	USS6M12	USS8M12	USS10M12				
16	USS6M16	USS8M16	USS10M16	USS12M16			
20	USS6M20	USS8M20	USS10M20	USS12M20	USS16M20		
25	USS6M25	USS8M25	USS10M25	USS12M25			
30	USS6M30	USS8M30	USS10M30	USS12M30	USS16M30		
35		USS8M35					
40	USS6M40	USS8M40	USS10M40	USS12M40	USS16M40	USS20M40	
50	USS6M50	USS8M50	USS10M50	USS12M50	USS16M50	USS20M50	USS24M50
60	USS6M60	USS8M60	USS10M60	USS12M60	USS16M60	USS20M60	USS24M60
70		USS8M70	USS10M70	USS12M70	USS16M70	USS20M70	USS24M70
80			USS10M80	USS12M80	USS16M80	USS20M80	USS24M80
90				USS12M90	USS16M90	USS20M90	USS24M90
100					USS16M100	USS20M100	USS24M100
120					USS16M120	USS20M120	USS24M120
140							

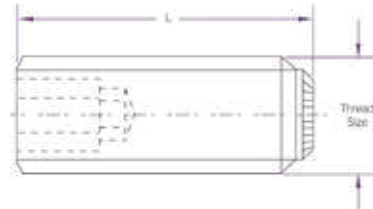
IMPERIAL						
Shoulder Length	Shoulder Dia. (Thread Size)					
	1/4 (3/16)	5/16 (1/4)	3/8 (5/16)	1/2 (3/8)	5/8 (1/2)	3/4 (5/8)
3/8	USS1438	USS51638				
1/2	USS1412	USS51612	USS3812	USS1212		
5/8		USS51658	USS3858	USS1258		
3/4	USS1434	USS51634	USS3834	USS1234		
1	USS141	USS5161	USS381	USS121		
1 1/4	USS14114	USS516114	USS38114	USS12114	USS58114	
1 1/2	USS14112	USS516112	USS38112	USS12112	USS58112	USS34112
1 3/4		USS516134	USS38134	USS12134	USS58134	USS34134
2	USS142	USS5162	USS382	USS122	USS582	USS342
2 1/4		USS516214	USS38214	USS12214	USS58214	USS34214
2 1/2		USS516212	USS38212	USS12212	USS58212	USS34212
2 3/4			USS38234	USS12234	USS58234	USS34234
3			USS383	USS123	USS583	USS343
3 1/4			USS38314	USS12314		
3 1/2			USS38312	USS12312	USS58312	USS34312
4			USS384	USS124	USS584	USS344
4 1/2				USS12412	USS58412	USS34412
4 1/4				USS34414		
5				USS125	USS585	USS345
6						USS346



METRIC										
Length	M3	M4	M5	M6	M8	M10	M12	M16	M20	M24
6	UCS3M06									
8	UCS3M08	UCS4M08	UCS5M08							
10	UCS3M10	UCS4M10	UCS5M10	UCS6M10	UCS8M10					
12	UCS3M12	UCS4M12	UCS5M12	UCS6M12	UCS8M12	UCS10M12				
16	UCS3M16	UCS4M16	UCS5M16	UCS6M16	UCS8M16	UCS10M16	UCS12M16			
20	UCS3M20	UCS4M20	UCS5M20	UCS6M20	UCS8M20	UCS10M20				
25	UCS3M25	UCS4M25	UCS5M25	UCS6M25	UCS8M25	UCS10M25	UCS12M25			
30	UCS3M30	UCS4M30	UCS5M30	UCS6M30	UCS8M30	UCS10M30	UCS12M30	UCS16M30		
35		UCS4M35	UCS5M35	UCS6M35	UCS8M35	UCS10M35	UCS12M35	UCS16M35	UCS20M35	
40		UCS4M40	UCS5M40	UCS6M40	UCS8M40	UCS10M40	UCS12M40	UCS16M40		
45			UCS5M45	UCS6M45	UCS8M45	UCS10M45	UCS12M45	UCS16M45	UCS20M45	
50			UCS5M50	UCS6M50	UCS8M50	UCS10M50	UCS12M50	UCS16M50		
55					UCS8M55	UCS10M55	UCS12M55	UCS16M55	UCS20M55	
60					UCS8M60	UCS10M60	UCS12M60	UCS16M60	UCS20M60	UCS24M60
70					UCS8M70	UCS10M70	UCS12M70	UCS16M70	UCS20M70	UCS24M70
80						UCS10M80	UCS12M80	UCS16M80	UCS20M80	UCS24M80
90						UCS10M90	UCS12M90	UCS16M90	UCS20M90	UCS24M90
100						UCS10M100	UCS12M100	UCS16M100	UCS20M100	UCS24M100
120								UCS16M120	UCS20M120	UCS24M120
140								UCS16M140	UCS20M140	UCS24M140
160								UCS16M160		

IMPERIAL						
Length	3/16	1/4	5/16	3/8	1/2	5/8
3/8	UCS31638	UCS1438				
1/2	UCS31612	UCS1412	UCS51612	UCS3812		
5/8	UCS31658	UCS1458	UCS51658	UCS3858		
3/4	UCS31634	UCS1434	UCS51634	UCS3834	UCS1234	
1	UCS3161	UCS141	UCS5161	UCS381	UCS121	UCS581
1 1/4	UCS316114	UCS14114	UCS516114	UCS38114	UCS12114	
1 1/2	UCS316112	UCS14112	UCS516112	UCS38112	UCS12112	UCS58112
1 3/4		UCS14134	UCS516134	UCS38134	UCS12134	UCS58134
2		UCS142	UCS5162	UCS382	UCS122	UCS582
2 1/2		UCS14212	UCS516212	UCS38212	UCS12212	UCS58212
3				UCS383	UCS123	UCS583
3 1/2						UCS58312
4						UCS584

Knurled Cup Point



METRIC					
Length	M3	M4	M5	M6	M8
3	USET3M03				
4	USET3M04	USET4M04			
5	USET3M05	USET4M05	USET5M05		
6	USET3M06	USET4M06	USET5M06	USET6M06	
8	USET3M08	USET4M08	USET5M08	USET6M08	USET8M08
10	USET3M10	USET4M10	USET5M10	USET6M10	USET8M10
12	USET3M12	USET4M12	USET5M12	USET6M12	USET8M12
16	USET3M16	USET4M16	USET5M16	USET6M16	USET8M16
20		USET4M20	USET5M20	USET6M20	USET8M20
25		USET4M25	USET5M25	USET6M25	USET8M25
30			USET5M30	USET6M30	USET8M30
35				USET6M35	USET8M35
40				USET6M40	USET8M40
45				USET6M45	USET8M45
50				USET6M50	USET8M50

METRIC					
Length	M10	M12	M16	M20	M24
10	USET10M10				
12	USET10M12	USET12M12			
16	USET10M16	USET12M16	USET16M16		
20	USET10M20	USET12M20	USET16M20	USET20M20	
25	USET10M25	USET12M25	USET16M25	USET20M25	USET24M25
30	USET10M30	USET12M30	USET16M30	USET20M30	USET24M30
35	USET10M35	USET12M35	USET16M35	USET20M35	USET24M35
40	USET10M40	USET12M40	USET16M40	USET20M40	USET24M40
45	USET10M45	USET12M45	USET16M45		
50	USET10M50	USET12M50	USET16M50	USET20M50	USET24M50
60		USET12M60	USET16M60	USET20M60	USET24M60

IMPERIAL							
Length	3/16	1/4	5/16	3/8	1/2	5/8	3/4
3/16	USET316316						
1/4	USET31614	USET1414	USET51614				
5/16		USET14516	USET516516	USET38516			
3/8		USET1438	USET51638	USET3838			
1/2	USET31612	USET1412	USET51612	USET3812	USET1212		
5/8			USET51658	USET3858	USET1258	USET5858	
3/4		USET1434		USET3834	USET1234	USET5834	USET3434
7/8					USET1278		
1		USET141	USET5161	USET381	USET121	USET581	USET341
1 1/4					USET12114	USET58114	
1 1/2			USET516112	USET38112	USET12112	USET58112	USET34112
1 3/4						USET58134	
2					USET122	USET582	USET342
2 1/2					USET12212		USET34212



IMPERIAL		
Size	Short Arm	Long Arm
1.5	UMWS015	UMWL015
2	UMWS02	UMWL02
2.5	UMWS025	UMWL025
3	UMWS03	UMWL03
4	UMWS04	UMWL04
5	UMWS05	UMWL05
6	UMWS06	UMWL06
8	UMWS08	UMWL08
10	UMWS10	UMWL10
12	UMWS12	UMWL12
14	UMWS14	UMWL14
17	UMWS17	UMWL17
19	UMWS19	UMWL19

Allen Keys (Hexagon Wrench) - Imperial



IMPERIAL		
Size	Short Arm	Long Arm
1/16	UWS04	UWL04
5/64	UWS05	UWL05
3/32	UWS06	UWL06
7/64	UWS07	UWL07
1/8	UWS08	UWL08
9/64	UWS09	UWL09
5/32	UWS10	UWL10
3/16	UWS12	UWL12
7/32	UWS14	UWL14
1/4	UWS16	UWL16
5/16	UWS20	UWL20
3/8	UWS24	UWL24
7/16	UWS28	UWL28
1/2	UWS32	UWL32
9/16	UWS36	UWL36
5/8	UWS40	UWL40



Product Code	Description
BONDHUS-HEX-METRIC	9 PCS SET (LONG): 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10MM
BONDHUS-HEX-IMPERIAL	13 PCS SET (LONG): 0.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8"
BONDHUS-B-END-METRIC	9 PCS SET: 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10MM
BONDHUS-B-END-IMPERIAL	13 PCS SET: 0.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8"
BONDHUS-T-HANDLE-METRIC	8 PCS SET WITH STAND: 2, 2.5, 3, 4, 5, 6, 8, 10MM

Tapped Dowel Pins - Metric



METRIC (Thread Size)							
Length	6mm (M4)	8mm (M5)	10mm (M5)	12mm (M6)	13mm (M8)	16mm (M8)	20mm (M10)
20	UDT6M20	UDT8M20					
24	UDT6M24						
25		UDT8M25	UDT10M25				
30	UDT6M30	UDT8M30	UDT10M30	UDT12M30			
35	UDT6M35	UDT8M35					
36	UDT6M36	UDT8M36	UDT10M36				
40	UDT6M40	UDT8M40	UDT10M40	UDT12M40		UDT16M40	
45				UDT12M45		UDT16M45	
50	UDT6M50	UDT8M50	UDT10M50	UDT12M50	UDT13M50	UDT16M50	UDT20M50
55							
60		UDT8M60	UDT10M60	UDT12M60		UDT16M60	UDT20M60
70			UDT10M70	UDT12M70		UDT16M70	
80			UDT10M80	UDT12M80		UDT16M80	UDT20M80
90						UDT16M90	UDT20M90
100						UDT16M100	UDT20M100

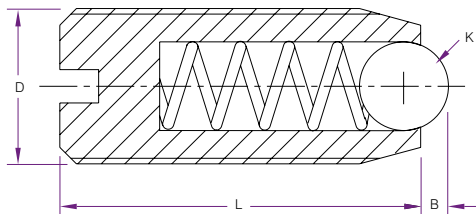


METRIC									
Length	M3	M4	M5	M6	M8	M10	M12	M16	M20
10	UD3M10	UD4M10							
12	UD3M12	UD4M12	UD5M12	UD6M12					
15		UD4M15							
16	UD3M16		UD5M16	UD6M16	UD8M16				
18	UD3M18								
20	UD3M20	UD4M20	UD5M20	UD6M20	UD8M20	UD10M20	UD12M20		
25	UD3M25	UD4M25	UD5M25	UD6M25	UD8M25	UD10M25	UD12M25		
30	UD3M30	UD4M30	UD5M30	UD6M30	UD8M30	UD10M30	UD12M30		
35		UD4M35	UD5M35	UD6M35	UD8M35		UD12M35		
40		UD4M40	UD5M40	UD6M40	UD8M40	UD10M40	UD12M40	UD16M40	
50		UD4M50	UD5M50	UD6M50	UD8M50	UD10M50	UD12M50	UD16M50	UD20M50
60				UD6M60	UD8M60	UD10M60	UD12M60	UD16M60	UD20M60
70				UD6M70	UD8M70	UD10M70	UD12M70	UD16M70	UD20M70
80						UD10M80	UD12M80	UD16M80	UD20M80
90							UD12M90	UD16M90	
100						UD10M100	UD12M100	UD16M100	UD20M100
120									UD20M120

Standard Dowel Pins - Imperial

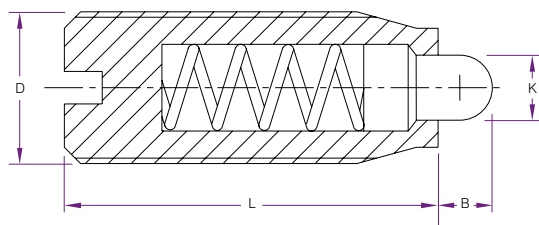


IMPERIAL						
Length	1/8	3/16	1/4	5/16	3/8	1/2
3/8	UD1838					
1/2	UD1812	UD31612	UD1412	UD51612	UD3812	
5/8	UD1858	UD31658				
3/4	UD1834	UD31634	UD1434	UD51634	UD3834	UD1234
1	UD181	UD3161	UD141	UD5161	UD381	UD121
1 1/4	UD18114	UD16114	UD14114	UD516114	UD38114	UD12114
1 1/2	UD18112	UD316112	UD14112	UD516112	UD38112	UD12112
1 3/4	UD18134	UD16134	UD14134	UD516134	UD38134	UD12134
2	UD182	UD3162	UD142	UD5162	UD382	UD122
2 1/4			UD14214	UD516214	UD38214	UD12214
2 1/2			UD14212	UD16212	UD38212	
3				UD5163	UD383	UD123
3 1/2						UD12312
4						UD124



Product Code	D	K	B	L
RAM04	M4	2.5	0.8	9.0
RAM05	M5	3.0	0.9	12
RAM06	M6	3.5	1.0	14
RAM08	M8	5.0	1.5	16
RAM10	M10	6.0	2.0	19
RAM12	M12	8.0	2.5	22
RAM16	M16	10	3.5	24

Pin Plungers



Product Code	D	K	B	L
RBM04	M4	1.5	1.5	15
RBM05	M5	2.4	2.3	18
RBM06	M6	2.7	2.5	20
RBM08	M8	3.5	3	22
RBM10	M10	4	3	22
RBM12	M12	6	4	28
RBM16	M16	7.5	5	32



Sumitomo Premium Brass EDM Wire

Produces superior results on virtually any wire EDM machine. Manufactured from high purity brass, Sumitomo SBS EDM Wire offers reliability, high performance and value for money.

Product Code	Size	Type
EDMW20HP3	0.20 x 3Kg	SBS Hard EDM Wire P3 Spool
EDMW25AP3	0.25 x 3Kg	SBS Soft EDM Wire P3 Spool
EDMW25HP5	0.25 x 5Kg	SBS Hard EDM Wire P5 Spool
EDMW25H6DIN160	0.25 x 6Kg	SBS Hard EDM Wire DIN160 Spool
EDMW25HP10	0.25 x 10Kg	SBS Hard EDM Wire P10 Spool
EDMW25HP20	0.25 x 20Kg	SBS Hard EDM Wire P20 Spool

Specification	Hard	Soft
Composition (%) Cu/Zn	65/35	65/35
Tensile Strength (N/mm ²) 440 - 585	930-1080	440-585
Diameter Tolerance	±0.001	±0.001

EDM Wire - Standard Brass



Standard Brass EDM Wire

Hales Standard Brass EDM wire offers a low cost alternative. Suitable for all types of EDM machines and recommended for standard applications requiring good accuracy and surface finish.

Product Code	Size	Type
HW20X5HW	0.20 x 5Kg	Hard EDM Wire P5 Spool
HW25X5HW	0.25 x 5Kg	Hard EDM Wire P5 Spool
HW25X6HWP5	0.25 x 6Kg	Hard EDM Wire P5 Spool
HW25XDIN160H-6KG	0.25 x 6Kg	Hard EDM Wire DIN160 Spool

Specification	Hard
Composition (%) Cu/Zn	63/37
Tensile Strength (N/mm ²)	900
Diameter Tolerance	0/-0.002

60/40 Brass EDM Wire

Designed with greater stiffness making it ideal for all automatic wire threading applications.

60/40 Brass EDM Wire has similar chemical composition and characteristics as other high performance Japanese EDM Wires

Product Code	Size	Type
HW25X5H60/40	0.25 x 5Kg	Hard EDM Wire P5 Spool
HW25X6H60/40P5	0.25 x 6Kg	Hard EDM Wire P5 Spool
W25XDIN160H6040-6KG	0.25 x 6Kg	Hard EDM Wire DIN160 Spool

Specification	Hard
Composition (%) Cu/Zn	60/40
Tensile Strength (N/mm ²)	900
Diameter Tolerance	0/-0.002

**EDM Wire - Speedcut Gamma****Speedcut Gamma EDM Wire (Zinc Coated)**

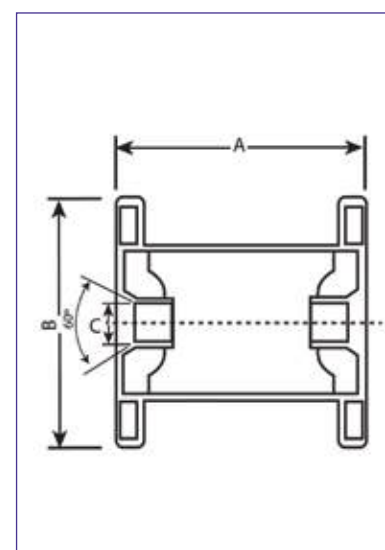
Speedcut Gamma is a new generation zinc coated EDM Wire that delivers high surface quality and increased speed up to 30% faster than regular brass wire.

Product Code	Size	Type
SPEEDCUTGAMMA.25-6KGP5	0.25 x 6Kg	Speedcut Gamma EDM Wire P5 Spool
SPEEDCUTGAM.25160DIN-8KG	0.25 x 8Kg	Speedcut Gamma EDM Wire DIN160 Spool
SPEEDCUTGAMMA.25-10KG	0.25 x 10Kg	Speedcut Gamma EDM Wire P0 Spool
SPEEDCUTGAMMA.25-16KG	0.25 x 16Kg	Speedcut Gamma EDM Wire DIN200 Spool
SPEEDCUTGAMMA.30-10KG	0.30 x 10Kg	Speedcut Gamma EDM Wire P10 Spool

Specification	Hard
Composition (%) Cu/Zn	63/37
Tensile Strength (N/mm ²)	900
Diameter Tolerance	0/-0.002

**EDM Wire - Spool Specifications**

Spool	A	B	C
DIN 125	125	125	16
DIN 160	160	160	22
DIN 200	200	200	22
P3	110	130	20
P5	115	160	20
P10	133	200	25
P15	140	250	35
P20	140	250	35



**EDM Water Filter**

Suits machine types: Agie, Charmille, Japax, Sodick

Product Code	Size	Type
FILW-01	150 X 32 X 355	EDM Water Filter

**EDM Water Filter**

Suits machine types: Agie, Charmille, Japax

Product Code	Size	Type
FILW-14P	150 X 31 X 375	EDM Water Filter

**EDM Water Filter**

Suits machine types: Brother, Mitsubishi

Product Code	Size	Type
FILW-20M	300 X 29 X 500	EDM Water Filter

**EDM Water Filter**

Suits machine type: Makino

Product Code	Size	Type
FILW-20N-05M	300 X 29 X 500	EDM Water Filter 5 Micron

**EDM Water Filter**

Suits machine types: Japax, Makino, Sodick

Product Code	Size	Type
FILW-23	260 X 46 X 280	EDM Water Filter

EDM Water Filter

Suits machine types: Fanuc, Sodick

Product Code	Size	Type
FILW-35CN	340 X 300	Central Nipple Edm Water Filter
FILW-35N	340 X 300	Nipple Edm Water Filter

**EDM Water Filter**

Suits machine types: Fanuc, Sodick

Product Code	Size	Type
FILW-35HP	340 X 46 X 300	Edm Water Filter

**EDM Water Filter**

Suits machine type: Sodick

Product Code	Size	Type
FILW-40N	340 X 450	Central Nipple Edm Water Filter

**EDM Water Filter**

Suits machine types: Sodick

Product Code	Size	Type
FILW-40SE	340 X 46 X 450	Edm Water Filter



EDM Wear Parts Available





Hales Resin is of high quality, specially formulated for the de-ionisation of water in wire EDM machines. This virgin resin offers many additional hours of service life over ordinary products.

Product Code	Size	Type
RESIN-25L BAG	25L Bag	Edion Long Life Resin
RESIN-25L BOX	25L Box (5 x 5L Bags)	Edion Long Life Resin

Rust Preventative



Hales EDM rust inhibitor reduces rust on work pieces and machines. This solution is environmentally safe, does not affect de-ionisation or filtration processes and will not cause valves to stick. Water concentrate: 1:200 (1/2%)

Product Code	Size	Type
FIL-HRI	5L Pail	Novotec Rust Inhibitor

EDM Wire Machine Cleaner



Hales B2000 - EDM Wire Machine Cleaner

- Removes rust, sludge and carbon immediately / that occurred on the guides, control box and work tank of wire cut machines.
- Removes rust and carbon on the work pieces
- Excellent on copper, stainless steel and aluminium
- Does not damage the shine of metallic surfaces and prevents yellowish discolouration
- Cleaning effect lasts for 1 - 2 months
- Possible to dilute and use.

Dilute Information:

- Rust occurring during production: 3 part Water to 1 part B-2000
- Components after 2-3 days of rust: 1 part Water to 1 part B-2000
- Old rust: Do Not dilute B-2000

Product Code	Size	Type
FIL-EDMCLEAN 5LT	5L Pail	EDM Cleaner

Hales EDM5 Fluid is a high quality solution with all the benefits that make it a superior product.

- High flash point and fire point that increase operator safety.
- Superior thermal stability, ensures low evaporation, long filter and fluid life, leading to reduced costs.
- Excellent filter-ability, allows rapid flushing of erosion debris, which, combined with low viscosity, enables high erosion rates with excellent surface finish.
- Crystal clear and low odour.

HALES EDM5-20	20L PAIL	EDM5 Fluid
HALES EDM5-205	205L Drum)	EDM5 Fluid



EDM Oil Filters

Hales stock a large range of high quality, long life and cost effective EDM filters for EDM wire cut and sinking machines.

FILE-09	260 X 46 X 280	EDM Oil Filter	Makino
FILE-12	150 X 72 X 450	EDM Oil Filter	Japax, Makino, Sodick
FILE-18	150 X 34 X 345	EDM Oil Filter	Hitachi, Mitsubishi
FILE-28	150 X 32 X 365	EDM Oil Filter	Agie, Chmer, Creator, Herless





For EDM Electrodes

- The addition of tellurium to copper results in short clean chips
- Allows cutting speeds to increase by more than five times compared to using pure copper
- Excellent surface finish
- Less wear
- Increased tool life

Tellurium Copper comes in square, round and rectangular profiles.

Square			
Product Code	Type	Size	Available Lengths
TC11	Square	1" x 1"	Can Be Supplied Per Inch
TC22	Square	2" x 2"	Can Be Supplied Per Inch
TC212212	Square	2 1/2" x 2 1/2"	Can Be Supplied Per Inch
TC234234	Square	2 3/4" x 2 3/4"	Can Be Supplied Per Inch
TC44	Square	4" x 4"	Can Be Supplied Per Inch
Round			
Product Code	Type	Size - Dia.	Available Lengths
TC14R	Round	1/4"	48" lengths only
TC38R	Round	3/8"	48" lengths only
TC12R	Round	1/2"	48" lengths only
TC58R	Round	5/8"	24" or 48" lengths only
TC34R	Round	3/4"	24" or 48" lengths only
TC1R	Round	1"	Can Be Supplied Per Inch
TC114R	Round	1 1/4"	Can Be Supplied Per Inch
TC112R	Round	1 1/2"	Can Be Supplied Per Inch
TC2R	Round	2"	Can Be Supplied Per Inch
TC212R	Round	2 1/2"	Can Be Supplied Per Inch
TC3R	Round	3"	Can Be Supplied Per Inch
TC4R	Round	4"	Can Be Supplied Per Inch
TC6R	Round	6"	Can Be Supplied Per Inch
Rectangular			
Product Code	Type	Size	Available Length
TC3164	Rectangular	3/16" x 4"	Can Be Supplied Per Inch
TC143	Rectangular	1/4" x 3"	Can Be Supplied Per Inch
TC144	Rectangular	1/4" x 4"	Can Be Supplied Per Inch
TC146	Rectangular	1/4" x 6"	Can Be Supplied Per Inch
TC121	Rectangular	1/2" x 1"	Can Be Supplied Per Inch
TC122	Rectangular	1/2" x 2"	Can Be Supplied Per Inch
TC123	Rectangular	1/2" x 3"	Can Be Supplied Per Inch
TC124	Rectangular	1/2" x 4"	Can Be Supplied Per Inch
TC126	Rectangular	1/2" x 6"	Can Be Supplied Per Inch
TC342	Rectangular	3/4" x 2"	Can Be Supplied Per Inch
TC343	Rectangular	3/4" x 3"	Can Be Supplied Per Inch
TC344	Rectangular	3/4" x 4"	Can Be Supplied Per Inch
TC12	Rectangular	1" x 2"	Can Be Supplied Per Inch
TC13	Rectangular	1" x 3"	Can Be Supplied Per Inch
TC16	Rectangular	1" x 6"	Can Be Supplied Per Inch
TC1346	Rectangular	1 3/4" x 6"	Can Be Supplied Per Inch
TC2614	Rectangular	2" x 6 1/4"	Can Be Supplied Per Inch
TC2124	Rectangular	2 1/2" x 4"	Can Be Supplied Per Inch

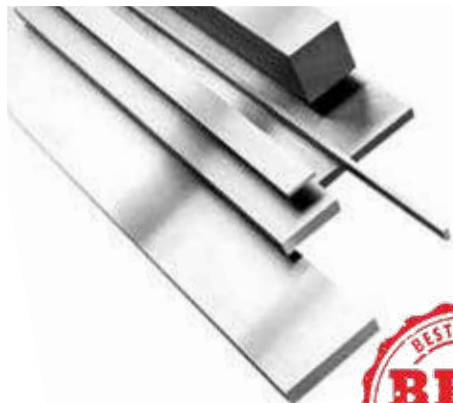


Product Code	Size & Description	Channel Type
TCTC075	0.75mm Coreless Copper Tube	2 Channel
TCTC1	1mm Coreless Copper Tube	3 Channel
TCTC125	1.25mm Coreless Copper Tube	3 Channel
TCTC15	1.5mm Coreless Copper Tube	3 Channel
TCTC175	1.75mm Coreless Copper Tube	3 Channel
TCTC2	2mm Coreless Copper Tube	3 Channel
TCTC25	2.5mm Coreless Copper Tube	3 Channel
TCTC3	3mm Coreless Copper Tube	3 Channel
TCTC35	3.5mm Coreless Copper Tube	3 Channel
TCTC4	4mm Coreless Copper Tube	3 Channel
TCTC45	4.5mm Coreless Copper Tube	3 Channel
TCTC5	5mm Coreless Copper Tube	3 Channel
TCTC6	6mm Coreless Copper Tube	3 Channel
TCTC8	8mm Coreless Copper Tube	3 Channel

Metric Copper Tubes - Single Hole



Product Code	Size & Description	Channel Type
TCTM075	0.75mm Copper Tube	1 Channel
TCTM1	1mm Copper Tube	1 Channel
TCTM125	1.25mm Copper Tube	1 Channel
TCTM15	1.5mm Copper Tube	1 Channel
TCTM175	1.75mm Copper Tube	1 Channel
TCTM2	2mm Copper Tube	1 Channel
TCTM25	2.5mm Copper Tube	1 Channel
TCTM3	3mm Copper Tube	1 Channel
TCTM35	3.5mm Copper Tube	1 Channel
TCTM4	4mm Copper Tube	1 Channel
TCTM45	4.5mm Copper Tube	1 Channel
TCTM5	5mm Copper Tube	1 Channel
TCTM6	6mm Copper Tube	1 Channel
TCTM8	8mm Copper Tube	1 Channel



Main characteristics and properties of the materials :

- High as quenched hardness
- Low dimensional movement or distortion after hardening
- Hardens from a relatively low hardening temperature
- Good machinability

Typical Applications:

- Blanking Dies
- Gauges
- Form Tools
- Taps
- Punches
- Dies
- Gauge Blocks
- Jigs & Fixtures

Nominal chemical composition

- Carbon 0.95%
- Manganese 1.2%
- Chromium 0.50%
- Tungsten 0.50%
- Silicon 0.25%
- Vanadium 0.20%
- S & P up to 0.035% max.

O1 is a medium alloyed oil hardening steel with excellent cutting force and toughness.

The excellent dimensional stability reduces distortion and the possibility of cracking during heat treatment.

Supplied in the annealed condition, the precision tolerances minimise additional costly tool room machining.

Ground Flat Stock provides toolmakers with a decarburisation free surface, plus high wear resistance after heat treatment, making it ideal for a multitude of uses and applications: dies, press tools, punches, gauges, cams, jigs, machining knives and marking devices.

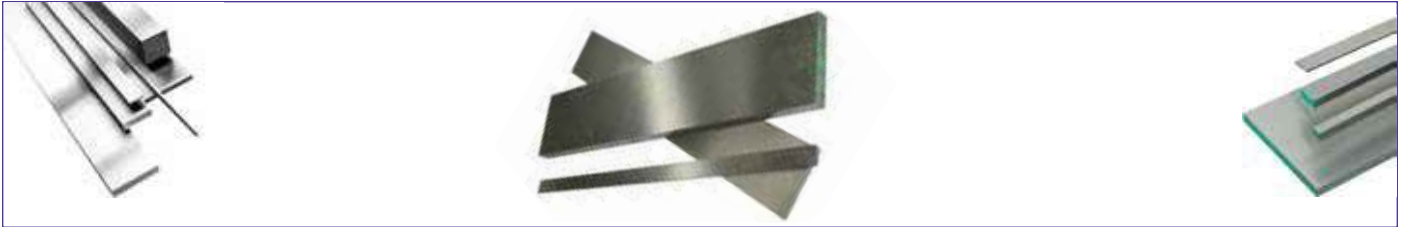
Hardness as supplied: 229 Brinall max Tensile Strength: 45 Tons / sq. in.

Hales stock a comprehensive range of metric Ground Flat Stock in 500mm lengths. 1 metre lengths also available.

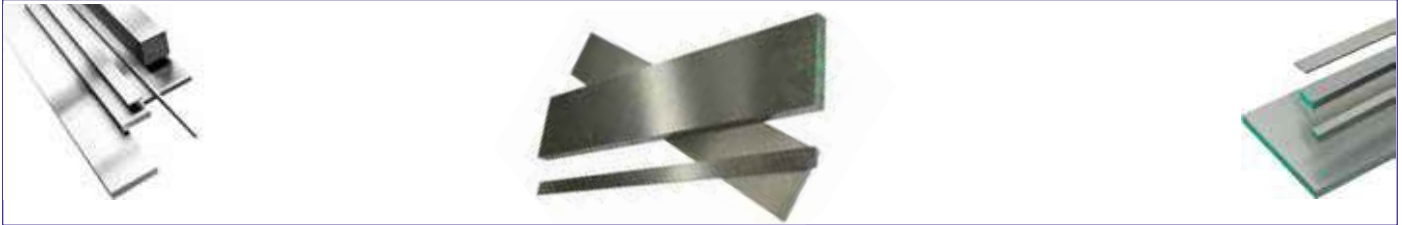


Part Number	Description	Part Number	Description	Part Number	Description
GM01010	1 X 10 X 500 Gauge Plate	GM01075	1 X 75 X 500 Gauge Plate	GM015015M	1.5 X 15 X 1000 Gauge Plate
GM01010M	1 X 10 X 1000 Gauge Plate	GM01075M	1 X 75 X 1000 Gauge Plate	GM015020	1.5 X 20 X 500 Gauge Plate
GM01015	1 X 15 X 500 Gauge Plate	GM01080	1 X 80 X 500 Gauge Plate	GM015025	1.5 X 25 X 500 Gauge Plate
GM01020	1 X 20 X 500 Gauge Plate	GM01100	1 X 100 X 500 Gauge Plate	GM015025M	1.5 X 25 X 1000 Gauge Plate
GM01020M	1 X 20 X 1000 Gauge Plate	GM01100M	1 X 100 X 1000 Gauge Plate	GM015030	1.5 X 30 X 500 Gauge Plate
GM01025	1 X 25 X 500 Gauge Plate	GM01125	1 X 125 X 500 Gauge Plate	GM015030M	1.5 X 30 X 1000 Gauge Plate
GM01030	1 X 30 X 500 Gauge Plate	GM01125M	1 X 125 X 1000 Gauge Plate	GM015040	1.5 X 40 X 500 Gauge Plate
GM01030M	1 X 30 X 1000 Gauge Plate	GM01150	1 X 150 X 500 Gauge Plate	GM015050	1.5 X 50 X 500 Gauge Plate
GM01040	1 X 40 X 500 Gauge Plate	GM01150M	1 X 150 X 1000 Gauge Plate	GM015050M	1.5 X 50 X 1000 Gauge Plate
GM01040M	1 X 40 X 1000 Gauge Plate	GM01200	1 X 200 X 500 Gauge Plate	GM015060	1.5 X 60 X 500 Gauge Plate
GM01050	1 X 50 X 500 Gauge Plate	GM01250	1 X 250 X 500 Gauge Plate	GM015060M	1.5 X 60 X 1000 Gauge Plate
GM01050M	1 X 50 X 1000 Gauge Plate	GM01300	1 X 300 X 500 Gauge Plate	GM015075	1.5 X 75 X 500 Gauge Plate
GM01060	1 X 60 X 500 Gauge Plate	GM015010	1.5 X 10 X 500 Gauge Plate	GM015075M	1.5 X 75 X 1000 Gauge Plate
GM01060M	1 X 60 X 1000 Gauge Plate	GM015015	1.5 X 15 X 500 Gauge Plate	GM015080	1.5 X 80 X 500 Gauge Plate

Gauge Plate



Part Number	Description	Part Number	Description	Part Number	Description
GM015080M	1.5 X 80 X 1000 Gauge Plate	GM05250M	5 X 250 X 1000 Gauge Plate	GM08015M	8 X 15 X 1000 Gauge Plate
GM015100	1.5 X 100 X 500 Gauge Plate	GM05300	5 X 300 X 500 Gauge Plate	GM08020	8 X 20 X 500 Gauge Plate
GM015100M	1.5 X 100 X 1000 Gauge Plate	GM0600	6mm Sq X 500 Gauge Plate	GM08020M	8 X 20 X 1000 Gauge Plate
GM015125	1.5 X 125 X 500 Gauge Plate	GM06010	6 X 10 X 500 Gauge Plate	GM08025	8 X 25 X 500 Gauge Plate
GM015125M	1.5 X 125 X 1000 Gauge Plate	GM06010M	6 X 10 X 1000 Gauge Plate	GM08025M	8 X 25 X 1000 Gauge Plate
GM015150	1.5 X 150 X 500 Gauge Plate	GM06015	6 X 15 X 500 Gauge Plate	GM08030	8 X 30 X 500 Gauge Plate
GM015150M	1.5 X 150 X 1000 Gauge Plate	GM05250	5 X 250 X 500 Gauge Plate	GM08030M	8 X 30 X 1000 Gauge Plate
GM015200	1.5 X 200 X 500 Gauge Plate	GM05250M	5 X 250 X 1000 Gauge Plate	GM08040	8 X 40 X 500 Gauge Plate
GM015200M	1.5 X 200 X 1000 Gauge Plate	GM05300	5 X 300 X 500 Gauge Plate	GM08040M	8 X 40 X 1000 Gauge Plate
GM015250	1.5 X 250 X 500 Gauge Plate	GM0600	6mm Sq X 500 Gauge Plate	GM08050	8 X 50 X 500 Gauge Plate
GM015300	1.5 X 300 X 500 Gauge Plate	GM06010	6 X 10 X 500 Gauge Plate	GM08050M	8 X 50 X 1000 Gauge Plate
GM02010	2 X 10 X 500 Gauge Plate	GM06010M	6 X 10 X 1000 Gauge Plate	GM08060	8 X 60 X 500 Gauge Plate
GM02010M	2 X 10 X 1000 Gauge Plate	GM06015	6 X 15 X 500 Gauge Plate	GM08060M	8 X 60 X 1000 Gauge Plate
GM02015	2 X 15 X 500 Gauge Plate	GM06015M	6 X 15 X 1000 Gauge Plate	GM08075	8 X 75 X 500 Gauge Plate
GM02015M	2 X 15 X 1000 Gauge Plate	GM06020	6 X 20 X 500 Gauge Plate	GM08075M	8 X 75 X 1000 Gauge Plate
GM02020	2 X 20 X 500 Gauge Plate	GM06020M	6 X 20 X 1000 Gauge Plate	GM08080	8 X 80 X 500 Gauge Plate
GM02020M	2 X 20 X 1000 Gauge Plate	GM06025	6 X 25 X 500 Gauge Plate	GM08080M	8 X 80 X 1000 Gauge Plate
GM02025	2 X 25 X 500 Gauge Plate	GM06025M	6 X 25 X 1000 Gauge Plate	GM08100	8 X 100 X 500 Gauge Plate
GM02025M	2 X 25 X 1000 Gauge Plate	GM06030	6 X 30 X 500 Gauge Plate	GM08100M	8 X 100 X 1000 Gauge Plate
GM02030	2 X 30 X 500 Gauge Plate	GM06030M	6 X 30 X 1000 Gauge Plate	GM08125	8 X 125 X 500 Gauge Plate
GM02030M	2 X 30 X 1000 Gauge Plate	GM06040	6 X 40 X 500 Gauge Plate	GM08125M	8 X 125 X 1000 Gauge Plate
GM02040	2 X 40 X 500 Gauge Plate	GM06040M	6 X 40 X 1000 Gauge Plate	GM08150	8 X 150 X 500 Gauge Plate
GM02040M	2 X 40 X 1000 Gauge Plate	GM06050	6 X 50 X 500 Gauge Plate	GM08150M	8 X 150 X 1000 Gauge Plate
GM02050	2 X 50 X 500 Gauge Plate	GM06050M	6 X 50 X 1000 Gauge Plate	GM08200	8 X 200 X 500 Gauge Plate
GM02050M	2 X 50 X 1000 Gauge Plate	GM06060	6 X 60 X 500 Gauge Plate	GM08200M	8 X 200 X 1000 Gauge Plate
GM02060	2 X 60 X 500 Gauge Plate	GM06060M	6 X 60 X 1000 Gauge Plate	GM08250	8 X 250 X 500 Gauge Plate
GM02060M	2 X 60 X 1000 Gauge Plate	GM06075	6 X 75 X 500 Gauge Plate	GM08250M	8 X 250 X 1000 Gauge Plate
GM02075	2 X 75 X 500 Gauge Plate	GM06075M	6 X 75 X 1000 Gauge Plate	GM08300	8 X 300 X 500 Gauge Plate
GM02075M	2 X 75 X 1000 Gauge Plate	GM06080	6 X 80 X 500 Gauge Plate	GM1000	10mmsq X 500 Gauge Plate
GM02080	2 X 80 X 500 Gauge Plate	GM06080M	6 X 80 X 1000 Gauge Plate	GM10015	10 X 15 X 500 Gauge Plate
GM02080M	2 X 80 X 1000 Gauge Plate	GM06100	6 X 100 X 500 Gauge Plate	GM10015M	10 X 15 X 1000 Gauge Plate
GM05075M	5 X 75 X 1000 Gauge Plate	GM06100M	6 X 100 X 1000 Gauge Plate	GM10020	10 X 20 X 500 Gauge Plate
GM05080	5 X 80 X 500 Gauge Plate	GM06125	6 X 125 X 500 Gauge Plate	GM10020M	10 X 20 X 1000 Gauge Plate
GM05080M	5 X 80 X 1000 Gauge Plate	GM06125M	6 X 125 X 1000 Gauge Plate	GM10025	10 X 25 X 500 Gauge Plate
GM05100	5 X 100 X 500 Gauge Plate	GM06150	6 X 150 X 500 Gauge Plate	GM10025M	10 X 25 X 1000 Gauge Plate
GM05100M	5 X 100 X 1000 Gauge Plate	GM06150M	6 X 150 X 1000 Gauge Plate	GM10030	10 X 30 X 500 Gauge Plate
GM05125	5 X 125 X 500 Gauge Plate	GM06200	6 X 200 X 500 Gauge Plate	GM10030M	10 X 30 X 1000 Gauge Plate
GM05125M	5 X 125 X 1000 Gauge Plate	GM06200M	6 X 200 X 1000 Gauge Plate	GM10040	10 X 40 X 500 Gauge Plate
GM05150	5 X 150 X 500 Gauge Plate	GM06250	6 X 250 X 500 Gauge Plate	GM10040M	10 X 40 X 1000 Gauge Plate
GM05150M	5 X 150 X 1000 Gauge Plate	GM06300	6 X 300 X 500 Gauge Plate	GM10050	10 X 50 X 500 Gauge Plate
GM05200	5 X 200 X 500 Gauge Plate	GM0800	8mmsq X 500 Gauge Plate	GM10050M	10 X 50 X 1000 Gauge Plate
GM05200M	5 X 200 X 1000 Gauge Plate	GM08010	8 X 10 X 500 Gauge Plate	GM10060	10 X 60 X 500 Gauge Plate
GM05250	5 X 250 X 500 Gauge Plate	GM08010M	8 X 10 X 1000 Gauge Plate	GM10060M	10 X 60 X 1000 Gauge Plate
GM05250	5 X 250 X 500 Gauge Plate	GM08015	8 X 15 X 500 Gauge Plate	GM10075	10 X 75 X 500 Gauge Plate
GM10075M	10 X 75 X 1000 Gauge Plate	GM15030M	15 X 30 X 1000 Gauge Plate	GM25040M	25 X 40 X 1000 Gauge Plate



Part Number	Description	Part Number	Description	Part Number	Description
GM10100	10 X 100 X 500 Gauge Plate	GM15040	15 X 40 X 500 Gauge Plate	GM25050	25 X 50 X 500 Gauge Plate
GM10100M	10 X 100 X 1000 Gauge Plate	GM15040M	15 X 40 X 1000 Gauge Plate	GM25050M	25 X 50 X 1000 Gauge Plate
GM10125	10 X 125 X 500 Gauge Plate	GM15050	15 X 50 X 500 Gauge Plate	GM25060	25 X 60 X 500 Gauge Plate
GM10125M	10 X 125 X 1000 Gauge Plate	GM15050M	15 X 50 X 1000 Gauge Plate	GM25075	25 X 75 X 500 Gauge Plate
GM10150	10 X 150 X 500 Gauge Plate	GM15060	15 X 60 X 500 Gauge Plate	GM25075M	25 X 75 X 1000 Gauge Plate
GM10150M	10 X 150 X 1000 Gauge Plate	GM15060M	15 X 60 X 1000 Gauge Plate	GM25080	25 X 80 X 500 Gauge Plate
GM10200	10 X 200 X 500 Gauge Plate	GM15075	15 X 75 X 500 Gauge Plate	GM25080M	25 X 80 X 1000 Gauge Plate
GM10200M	10 X 200 X 1000 Gauge Plate	GM15080	15 X 80 X 500 Gauge Plate	GM25100	25 X 100 X 500 Gauge Plate
GM10250	10 X 250 X 500 Gauge Plate	GM15100	15 X 100 X 500 Gauge Plate	GM25100M	25 X 100 X 1000 Gauge Plate
GM10300	10 X 300 X 500 Gauge Plate	GM15100M	15 X 100 X 1000 Gauge Plate	GM25125	25 X 125 X 500 Gauge Plate
GM1200	12mm Sq X 500 Gauge Plate	GM15125	15 X 125 X 500 Gauge Plate	GM25125M	25 X 125 X 1000 Gauge Plate
GM12015	12 X 15 X 500 Gauge Plate	GM15150	15 X 150 X 500 Gauge Plate	GM25150	25 X 150 X 500 Gauge Plate
GM12015M	12 X 15 X 1000 Gauge Plate	GM15150M	15 X 150 X 1000 Gauge Plate	GM25200	25 X 200 X 500 Gauge Plate
GM12020	12 X 20 X 500 Gauge Plate	GM15200	15 X 200 X 500 Gauge Plate	GM25250	25 X 250 X 500 Gauge Plate
GM12020M	12 X 20 X 1000 Gauge Plate	GM15250	15 X 250 X 500 Gauge Plate	GM25250M	25 X 250 X 1000 Gauge Plate
GM12025	12 X 25 X 500 Gauge Plate	GM15250M	15 X 250 X 1000 Gauge Plate	GM25300	25 X 300 X 500 Gauge Plate
GM12025M	12 X 25 X 1000 Gauge Plate	GM15300	15 X 300 X 500 Gauge Plate	GM25300M	25 X 300 X 1000 Gauge Plate
GM12030	12 X 30 X 500 Gauge Plate	GM2000	20mm sq X 500 Gauge Plate	GM3000	30mmsq X 500 Gauge Plate
GM12030M	12 X 30 X 1000 Gauge Plate	GM2000M	20mmsq X 1000 Gauge Plate	GM30040	30 X 40 X 500 Gauge Plate
GM12040	12 X 40 X 500 Gauge Plate	GM20025	20 X 25 X 500 Gauge Plate	GM30040M	30 X 40 X 1000 Gauge Plate
GM12040M	12 X 40 X 1000 Gauge Plate	GM20025M	20 X 25 X 1000 Gauge Plate	GM30050	30 X 50 X 500 Gauge Plate
GM12050	12 X 50 X 500 Gauge Plate	GM20030	20 X 30 X 500 Gauge Plate	GM30050M	30 X 50 X 1000 Gauge Plate
GM12050M	12 X 50 X 1000 Gauge Plate	GM20030M	20 X 30 X 1000 Gauge Plate	GM30060	30 X 60 X 500 Gauge Plate
GM12060	12 X 60 X 500 Gauge Plate	GM20040	20 X 40 X 500 Gauge Plate	GM30060M	30 X 60 X 1000 Gauge Plate
GM12060M	12 X 60 X 1000 Gauge Plate	GM20040M	20 X 40 X 1000 Gauge Plate	GM30075	30 X 75 X 500 Gauge Plate
GM12075	12 X 75 X 500 Gauge Plate	GM20050	20 X 50 X 500 Gauge Plate	GM30075M	30 X 75 X 1000 Gauge Plate
GM12080	12 X 80 X 500 Gauge Plate	GM20050M	20 X 50 X 1000 Gauge Plate	GM30080	30 X 80 X 500 Gauge Plate
GM12080M	12 X 80 X 1000 Gauge Plate	GM20060	20 X 60 X 500 Gauge Plate	GM30080M	30 X 80 X 1000 Gauge Plate
GM12100	12 X 100 X 500 Gauge Plate	GM20060M	20 X 60 X 1000 Gauge Plate	GM30100	30 X 100 X 500 Gauge Plate
GM12100M	12 X 100 X 1000 Gauge Plate	GM20075	20 X 75 X 500 Gauge Plate	GM30125	30 X 125 X 500 Gauge Plate
GM12125	12 X 125 X 500 Gauge Plate	GM20075M	20 X 75 X 1000 Gauge Plate	GM30125M	30 X 125 X 1000 Gauge Plate
GM12125M	12 X 125 X 1000 Gauge Plate	GM20080	20 X 80 X 500 Gauge Plate	GM30150	30 X 150 X 500 Gauge Plate
GM12150	12 X 150 X 500 Gauge Plate	GM20080M	20 X 80 X 1000 Gauge Plate	GM30150M	30 X 150 X 1000 Gauge Plate
GM12150M	12 X 150 X 1000 Gauge Plate	GM20100	20 X 100 X 500 Gauge Plate	GM30200	30 X 200 X 500 Gauge Plate
GM12200	12 X 200 X 500 Gauge Plate	GM20125	20 X 125 X 500 Gauge Plate	GM30200M	30 X 200 X 1000 Gauge Plate
GM12200M	12 X 200 X 1000 Gauge Plate	GM20150	20 X 150 X 500 Gauge Plate	GM30250	30 X 250 X 500 Gauge Plate
GM12250	12 X 250 X 500 Gauge Plate	GM20200	20 X 200 X 500 Gauge Plate	GM30250M	30 X 250 X 1000 Gauge Plate
GM12250M	12 X 250 X 1000 Gauge Plate	GM20250	20 X 250 X 500 Gauge Plate	GM30300	30 X 300 X 500 Gauge Plate
GM12300	12 X 300 X 500 Gauge Plate	GM20250M	20 X 250 X 1000 Gauge Plate	GM30300M	30 X 300 X 1000 Gauge Plate
GM1500	15mmsq X 500 Gauge Plate	GM20300	20 X 300 X 500 Gauge Plate	GM4000	40mmsq X 500 Gauge Plate
GM15020	15 X 20 X 500 Gauge Plate	GM2500	25mm Sq X 500 Gauge Plate	GM5000	50mmsq X 500 Gauge Plate
GM15020M	15 X 20 X 1000 Gauge Plate	GM25030	25 X 30 X 500 Gauge Plate		
GM15025	15 X 25 X 500 Gauge Plate	GM25030M	25 X 30 X 1000 Gauge Plate		
GM15030	15 X 30 X 500 Gauge Plate	GM25040	25 X 40 X 500 Gauge Plate		



METRIC Silver Steel Water Hardening	
Product Code	Rod Diameter x Length
SSM02	2mm Dia. x 1m
SSM025	2.5mm Dia. x 1m
SSM03	3mm Dia. x 1m
SSM035	3.5mm Dia. x 1m
SSM04	4mm Dia. x 1m
SSM045	4.5mm Dia. x 1m
SSM05	5mm Dia. x 1m
SSM055	5.5mm Dia. x 1m
SSM06	6mm Dia. x 1m
SSM065	6.5mm Dia. x 1m
SSM075	7.5mm Dia. x 1m
SSM08	8mm Dia. x 1m
SSM09	9mm Dia. x 1m
SSM095	9.5mm Dia. x 1m
SSM10	10mm Dia. x 1m
SSM12	12mm Dia. x 1m
SSM125	12.5mm Dia. x 1m
SSM13	13mm Dia. x 1m
SSM14	14mm Dia. x 1m
SSM15	15mm Dia. x 1m
SSM16	16mm Dia. x 1m
SSM17	17mm Dia. x 1m
SSM18	18mm Dia. x 1m
SSM19	19mm Dia. x 1m
SSM20	20mm Dia. x 1m
SSM21	21mm Dia. x 1m
SSM22	22mm Dia. x 1m
SSM23	23mm Dia. x 1m
SSM24	24mm Dia. x 1m
SSM25	25mm Dia. x 1m
SSM26	26mm Dia. x 1m
SSM30	30mm Dia. x 1m

IMPERIAL Silver Steel Water Hardening	
Product Code	Rod Diameter x Length
SS08	1/8 Dia. x 1m
SS12	3/16 Dia. x 1m
SS16	1/4 Dia. x 1m
SS20	5/16 Dia. x 1m
SS24	3/8 Dia. x 1m
SS28	7/16 Dia. x 1m
SS32	1/2 Dia. x 1m
SS40	5/8 Dia. x 1m
SS48	3/4 Dia. x 1m
SS56	7/8 Dia. x 1m
SS64	1" Dia. x 1m
SS86	1.1/4" Dia. x 1m



Product Code	Description (W x Thickness x L)	Product Code	Description (W x Thickness x L)	Product Code	Description (W x Thickness x L)
HSB506-050	50 X 6 stock bar 50cm	HSB10016-050	100 X 16 stock bar 50cm	HSB20030-100	200 X 30 stock bar 100cm
HSB506-100	50 X 6 stock bar 100cm	HSB10016-100	100 X 16 stock bar 100cm	HSB20040-050	200 X 40 stock bar 50cm
HSB5010-050	50 X 10 stock bar 50cm	HSB10020-050	100 X 20 stock bar 50cm	HSB20040-100	200 X 40 stock bar 100cm
HSB5010-100	50 X 10 stock bar 100cm	HSB10020-100	100 X 20 stock bar 100cm	HSB20050-050	200 X 50 stock bar 50cm
HSB5012-050	50 X 12 stock bar 50cm	HSB10025-050	100 X 25 stock bar 50cm	HSB20050-100	200 X 50 stock bar 100cm
HSB5012-100	50 X 12 stock bar 100cm	HSB10025-100	100 X 25 stock bar 100cm		
HSB5016-050	50 X 16 stock bar 50cm	HSB10032-050	100 X 32 stock bar 50cm	HSB25010-050	250 X 10 stock bar 50cm
HSB5016-100	50 X 16 stock bar 100cm	HSB10032-100	100 X 32 stock bar 100cm	HSB25010-100	250 X 10 stock bar 100cm
HSB5020-050	50 X 20 stock bar 50cm	HSB10040-050	100 X 40 stock bar 50cm	HSB25012-050	250 X 12 stock bar 50cm
HSB5020-100	50 X 20 stock bar 100cm	HSB10040-100	100 X 40 stock bar 100cm	HSB25012-100	250 X 12 stock bar 100cm
HSB5025-050	50 X 25 stock bar 50cm	HSB10050-050	100 X 50 stock bar 50cm	HSB25016-050	250 X 16 stock bar 50cm
HSB5025-100	50 X 25 stock bar 100cm	HSB10050-100	100 X 50 stock bar 100cm	HSB25016-100	250 X 16 stock bar 100cm
HSB5030-050	50 X 30 stock bar 50cm			HSB25020-050	250 X 20 stock bar 50cm
HSB5030-100	50 X 30 stock bar 100cm	HSB1506-050	150 X 6 stock bar 50cm	HSB25020-100	250 X 20 stock bar 100cm
HSB5040-050	50 X 40 stock bar 50cm	HSB15010-050	150 X 10 stock bar 50cm	HSB25025-050	250 X 25 stock bar 50cm
HSB5040-100	50 X 40 stock bar 100cm	HSB15010-100	150 X 10 stock bar 100cm	HSB25025-100	250 X 25 stock bar 100cm
HSB5050-050	50 X 50 stock bar 50cm	HSB15012-050	150 X 12 stock bar 50cm	HSB25030-050	250 X 30 stock bar 50cm
HSB5050-100	50 X 50 stock bar 100cm	HSB15012-100	150 X 12 stock bar 100cm	HSB25030-100	250 X 30 stock bar 100cm
		HSB15016-050	150 X 16 stock bar 50cm	HSB25040-050	250 X 40 stock bar 50cm
HSB7506-050	75 X 6 stock bar 50cm	HSB15016-100	150 X 16 stock bar 100cm	HSB25040-100	250 X 40 stock bar 100cm
HSB7512-050	75 X 12 stock bar 50cm	HSB15020-050	150 X 20 stock bar 50cm	HSB25050-050	250 X 50 stock bar 50cm
HSB7512-100	75 X 12 stock bar 100cm	HSB15020-100	150 X 20 stock bar 100cm	HSB25050-100	250 X 50 stock bar 100cm
HSB7516-050	75 X 16 stock bar 50cm	HSB15025-050	150 X 25 stock bar 50cm	HSB25060-050	250 X 60 stock bar 50cm
HSB7516-100	75 X 16 stock bar 100cm	HSB15025-100	150 X 25 stock bar 100cm	HSB25060-100	250 X 60 stock bar 100cm
HSB7520-050	75 X 20 stock bar 50cm	HSB15032-050	150 X 32 stock bar 50cm		
HSB7520-100	75 X 20 stock bar 100cm	HSB15032-100	150 X 32 stock bar 100cm	HSB30012-050	300 X 12 stock bar 50cm
HSB7525-050	75 X 25 stock bar 50cm	HSB15040-050	150 X 40 stock bar 50cm	HSB30012-100	300 X 12 stock bar 100cm
HSB7525-100	75 X 25 stock bar 100cm	HSB15040-100	150 X 40 stock bar 100cm	HSB30016-050	300 X 16 stock bar 50cm
HSB7530-050	75 X 30 stock bar 50cm	HSB15050-050	150 X 50 stock bar 50cm	HSB30016-100	300 X 16 stock bar 100cm
HSB7530-100	75 X 30 stock bar 100cm	HSB15050-100	150 X 50 stock bar 100cm	HSB30020-050	300 X 20 stock bar 50cm
HSB7540-050	75 X 40 stock bar 50cm			HSB30020-100	300 X 20 stock bar 100cm
HSB7540-100	75 X 40 stock bar 100cm	HSB20012-050	200 X 12 stock bar 50cm	HSB30025-050	300 X 25 stock bar 50cm
HSB7550-050	75 X 50 stock bar 50cm	HSB20012-100	200 X 12 stock bar 100cm	HSB30025-100	300 X 25 stock bar 100cm
HSB7550-100	75 X 50 stock bar 100cm	HSB20016-050	200 X 16 stock bar 50cm	HSB30030-050	300 X 30 stock bar 50cm
		HSB20016-100	200 X 16 stock bar 100cm	HSB30030-100	300 X 30 stock bar 100cm
HSB1006-050	100 X 6 stock bar 50cm	HSB20020-050	200 X 20 stock bar 50cm	HSB30040-050	300 X 40 stock bar 50cm
HSB1006-100	100 X 6 stock bar 100cm	HSB20020-100	200 X 20 stock bar 100cm	HSB30040-100	300 X 40 stock bar 100cm
HSB10010-050	100 X 10 stock bar 50cm	HSB20025-050	200 X 25 stock bar 50cm	HSB30050-050	300 X 50 stock bar 50cm
HSB10010-100	100 X 10 stock bar 100cm	HSB20025-100	200 X 25 stock bar 100cm	HSB30050-100	300 X 50 stock bar 100cm
HSB10012-050	100 X 12 stock bar 50cm	HSB20030-050	200 X 30 stock bar 50cm	HSB30060-050	300 X 60 stock bar 50cm
HSB10012-100	100 X 12 stock bar 100cm			HSB30060-100	300 X 60 stock bar 100cm



	Product Code	Diameter	Length
Urethane Shore A90	U006-L	6mm	1 Metre
	U010-L	10mm	1 Metre
	U012-L	12mm	1 Metre
	U015-L	15mm	1 Metre
	U022-L	22mm	1 Metre
	U025-L	25mm	1 Metre
	U032-L	32mm	1 Metre
	U035-L	35mm	1 Metre
	U040-L	40mm	1 Metre
	U045-L	45mm	1 Metre
	U050-L	50mm	1 Metre
	U060-L	60mm	1 Metre
	U070-L	70mm	1 Metre
	U100-L	100mm	1 Metre

Steel Shim in a Can

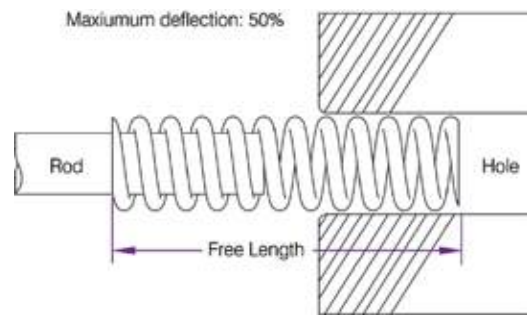


Product Code	Description
SHS001	0.001 SHIM STEEL 6 inch wide x 100 inch long
SHS002	0.002 SHIM STEEL 6 inch wide x 100 inch long
SHS003	0.003 SHIM STEEL 6 inch wide x 100 inch long
SHS004	0.004 SHIM STEEL 6 inch wide x 100 inch long
SHS005	0.005 SHIM STEEL 6 inch wide x 100 inch long
SHS006	0.006 SHIM STEEL 6 inch wide x 100 inch long
SHS008	0.008 SHIM STEEL 6 inch wide x 100 inch long
SHS010	0.010 SHIM STEEL 6 inch wide x 100 inch long
SHS012	0.012 SHIM STEEL 6 inch wide x 100 inch long
SHS015	0.015 SHIM STEEL 6 inch wide x 100 inch long
SHS020	0.020 SHIM STEEL 6 inch wide x 100 inch long
SHSA	ASSORTED SHIM 12 PACK incl. 6" X 12" X 12PCs of 0.001, 0.0015, 0.002, 0.003, 0.004, 0.005, 0.006, 0.007, 0.008, 0.010, 0.012, 0.015



Silicone Chrome Die Springs
Raymond

Medium Duty
Colour - BLUE

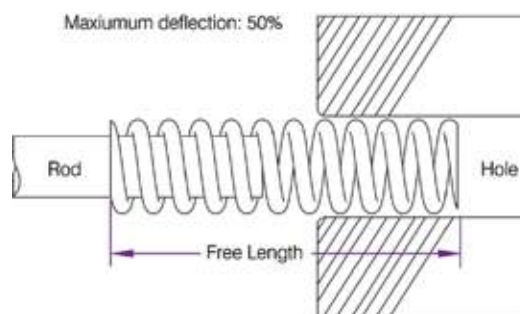


Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Maximum Deflection 50% of Free Length		Deflection for Average life 40% of Free Length		Deflection for Long life 25% of Free Length		Total Travel to Solid	
			mm	in		Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
3/8" 10mm	3/16" 4.5mm	DRM0308	25	1	5.6	28	0.500	23	0.400	14	0.250	31	0.545
		DRM0310	32	1.25	4.8	30	0.625	24	0.500	15	0.312	35	0.735
		DRM0312	38	1.5	3.8	29	0.750	23	0.600	14	0.375	34	0.906
		DRM0314	44	1.75	3.4	30	0.875	24	0.700	15	0.437	36	1.053
		DRM0316	51	2	2.8	28	1.000	22	0.800	14	0.500	35	1.248
		DRM0320	64	2.5	2.4	30	1.250	24	1.000	15	0.625	38	1.581
		DRM0324	76	3	1.8	27	1.500	22	1.200	14	0.750	35	1.931
		DRM0396	305	12	0.6	36	6.000	29	4.800	18	3.000	48	7.961
1/2" 13mm	9/32" 7mm	DRM0408	25	1	10	50	0.500	40	0.400	25	0.250	58	0.578
		DRM0410	32	1.25	9.2	58	0.625	46	0.500	29	0.312	66	0.722
		DRM0412	38	1.5	7.6	57	0.750	46	0.600	29	0.375	68	0.893
		DRM0414	44	1.75	6.8	60	0.875	48	0.700	30	0.437	71	1.048
		DRM0416	51	2	6.4	64	1.000	51	0.800	32	0.500	79	1.234
		DRM0420	64	2.5	5.2	65	1.250	52	1.000	33	0.625	81	1.550
		DRM0424	76	3	4	60	1.500	48	1.200	30	0.750	76	1.891
		DRM0428	89	3.5	3	53	1.750	42	1.400	26	0.875	67	2.233
		DRM0436	115	4.5	2.5	53	2.125	45	1.800	28	1.125	71	2.850
		DRM0496	305	12	0.8	48	6.000	38	4.800	24	3.000	56	6.931
5/8" 16mm	11/32" 8.5mm	DRM0508	25	1	13		0.500	52	0.400	33	0.250	55	0.420
		DRM0510	32	1.25	12.8		0.625	64	0.500	40	0.312	79	0.617
		DRM0512	38	1.5	10.8	81	0.750	65	0.600	41	0.375	88	0.815
		DRM0514	44	1.75	9.6	84	0.875	67	0.700	42	0.437	93	0.969
		DRM0516	51	2	8.8	88	1.000	70	0.800	44	0.500	102	1.157
		DRM0520	64	2.5	6	75	1.250	60	1.000	38	0.625	87	1.445
		DRM0524	76	3	5.6	84	1.500	67	1.200	42	0.750	103	1.840
		DRM0528	89	3.5	4.8	84	1.750	67	1.400	42	0.875	104	2.159
		DRM0532	102	4	4.4	88	2.000	70	1.600	44	1.000	113	2.576
		DRM0596	305	12	1.4	84	6.000	67	1.800	42	3.000	109	7.782
3/4" 19mm	3/8" 9.5mm	DRM0608	25	1	31.2	156	0.500	125	0.400	78	0.250	170	0.544
		DRM0610	32	1.25	25.6	160	0.625	128	0.500	80	0.312	179	0.699
		DRM0612	38	1.5	20	150	0.750	120	0.600	75	0.375	171	0.854
		DRM0614	44	1.75	17.6	154	0.875	123	0.700	77	0.437	176	1.000
		DRM0616	51	2	14.4	144	1.000	115	0.800	72	0.500	167	1.162
		DRM0620	64	2.5	12	150	1.250	120	1.000	75	0.625	177	1.474
		DRM0624	76	3	9.6	144	1.500	115	1.200	72	0.750	171	1.784
		DRM0628	89	3.5	8	140	1.750	112	1.400	70	0.875	168	2.094
		DRM0632	102	4	7.2	144	2.000	115	1.600	72	1.000	173	2.404
		DRM0636	115	4.5	6.4	144	2.250	115	1.800	72	1.125	174	2.714
		DRM0640	127	5	5.6	140	2.500	112	2.000	70	1.250	169	3.024
		DRM0644	139	5.5	4.8	132	2.750	106	2.200	66	1.375	160	3.334
		DRM0648	152	6	4	120	3.000	96	2.400	60	1.500	146	3.644
		DRM0696	305	12	2.4	144	6.000	115	4.800	72	3.000	177	7.364



Silicone Chrome Die Springs
Raymond

Medium Duty
Colour - BLUE

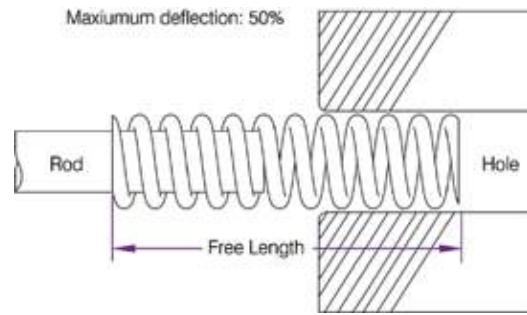


Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Maximum Deflection 50% of Free Length		Deflection for Average life 40% of Free Length		Deflection for Long life 25% of Free Length		Total Travel to Solid	
			mm	in		Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
1" 25mm	1/2" 12.5mm	DRM0808	25	1.00	53.6		0.500	214	0.400	134	0.250	264	0.493
		DRM0810	32	1.25	43.6		0.625	218	0.500	136	0.312	272	0.624
		DRM0812	38	1.50	33.6	252	0.750	202	0.600	126	0.375	274	0.816
		DRM0814	44	1.75	28.8	248	0.875	202	0.700	126	0.437	272	0.944
		DRM0816	51	2.00	23.2	232	1.000	186	0.800	116	0.500	258	1.114
		DRM0820	64	2.50	20.0	250	1.250	200	1.000	125	0.625	282	1.411
		DRM0824	76	3.00	15.2	228	1.500	182	1.200	114	0.750	260	1.708
		DRM0828	89	3.50	12.8	224	1.750	80	1.400	112	0.875	266	2.082
		DRM0832	102	4.00	12.0	240	2.000	192	1.600	120	1.000	276	2.303
		DRM0836	115	4.50	10.4	234	2.250	187	1.800	117	1.125	271	2.601
		DRM0840	127	5.00	9.6	240	2.500	192	2.000	120	1.250	278	2.898
		DRM0844	139	5.50	8.8	242	2.750	194	2.200	121	1.375	281	3.195
		DRM0848	152	6.00	8.0	240	3.000	192	2.400	120	1.500	279	3.493
		DRM0856	178	7.00	7.2	252	3.500	202	2.800	126	1.750	294	4.086
		DRM0864	203	8.00	5.6	224	4.000	180	3.200	112	2.000	262	4.682
		DRM0896	305	12.00	4.0	240	6.000	192	4.800	120	3.000	282	7.062
1 1/4" 32mm	5/8" 15.5mm	DRM1012	38	1.50	49.6	372	0.750	298	0.600	186	0.375	399	0.804
		DRM1014	44	1.75	42.4	371	0.875	296	0.700	185	0.437	402	0.947
		DRM1016	51	2.00	35.2	352	1.000	282	0.800	176	0.500	398	1.130
		DRM1020	64	2.50	28.8	360	1.250	288	1.000	180	0.625	419	1.456
		DRM1024	76	3.00	24.0	360	1.500	288	1.200	180	0.750	428	1.782
		DRM1028	89	3.50	20.0	350	1.750	280	1.400	175	0.875	422	2.108
		DRM1032	102	4.00	17.6	352	2.000	282	1.600	176	1.000	428	2.434
		DRM1036	115	4.50	16.0	360	2.500	288	1.800	180	1.125	442	2.760
		DRM1040	127	5.00	13.6	340	2.500	272	2.000	170	1.250	420	3.086
		DRM1044	139	5.50	12.8	352	2.750	282	2.200	176	1.375	437	3.412
		DRM1048	152	6.00	12.0	360	3.000	288	2.400	180	1.500	449	3.738
		DRM1056	178	7.00	10.4	364	3.500	291	2.800	182	1.750	457	4.390
		DRM1064	203	8.00	8.8	352	4.000	282	3.200	176	2.000	444	5.042
		DRM1080	254	10.00	7.2	360	5.000	288	4.000	180	2.500	457	6.346
		DRM1096	305	12.00	5.6	336	6.000	269	4.800	168	3.000	428	7.650



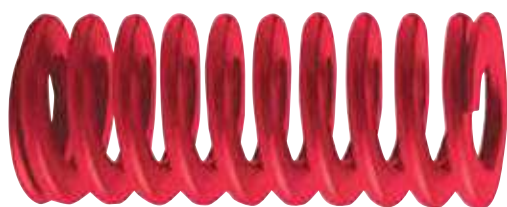
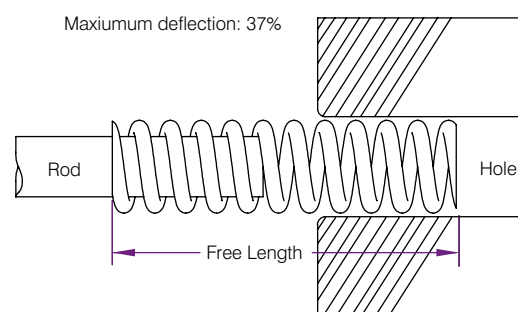
Silicone Chrome Die Springs
Raymond

Medium Duty
Colour - BLUE

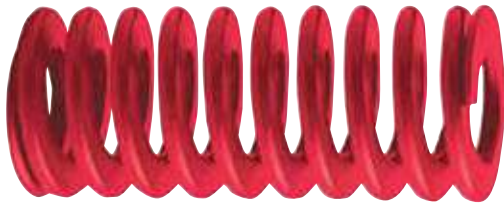


Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Maximum Deflection 50% of Free Length		Deflection for Average life 40% of Free Length		Deflection for Long life 25% of Free Length		Total Travel to Solid	
			mm	in		Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
1 1/2" 38mm	3/4" 19mm	DRM1216	51	2.00	44.8	448	1.00	358	0.800	224	0.500	500	1.116
		DRM1220	64	2.50	36.8	460	1.25	368	1.000	230	0.625	532	1.446
		DRM1224	76	3.00	33.6	504	1.50	403	1.200	252	0.750	597	1.776
		DRM1228	89	3.50	26.4	462	1.75	370	1.400	231	0.875	547	2.072
		DRM1232	102	4.00	21.6	432	2.00	346	1.600	216	1.000	526	2.436
		DRM1236	115	4.50	20.8	468	2.25	374	1.800	234	1.125	575	2.766
		DRM1240	127	5.00	20	500	2.50	400	2.000	250	1.250	619	3.096
		DRM1244	139	5.50	16.8	462	2.75	370	2.200	231	1.375	576	3.426
		DRM1248	152	6.00	14.4	432	3.00	346	2.400	216	1.500	540	3.756
		DRM1256	178	7.00	13.6	476	3.50	381	2.800	238	1.750	601	4.416
		DRM1264	203	8.00	12.8	512	4.00	410	3.200	256	2.000	650	5.076
		DRM1280	254	10.00	8.8	440	5.00	352	4.000	220	2.500	563	6.396
		DRM1296	305	12.00	8	480	6.00	384	4.800	240	3.000	606	7.580
2" 51mm	1" 25mm	DRM1620	64	2.50	89.6	1120	1.25	896	1.000	560	0.625	1179	1.316
		DRM1624	76	3.00	76.8	1152	1.50	922	1.200	576	0.750	1243	1.619
		DRM1628	89	3.50	64.8	1134	1.75	907	1.400	567	0.875	1245	1.922
		DRM1632	102	4.00	55.2	1104	2.00	883	1.600	552	1.000	1228	2.224
		DRM1636	115	4.50	47.2	1062	2.25	850	1.800	531	1.125	1193	2.527
		DRM1640	127	5.00	41.6	1040	2.50	832	2.000	520	1.250	1177	2.830
		DRM1644	139	5.50	39.2	1078	2.75	862	2.200	539	1.375	1228	3.132
		DRM1648	152	6.00	35.2	1056	3.00	845	2.400	528	1.500	1209	3.435
		DRM1656	178	7.00	31.2	1092	3.50	874	2.800	546	1.750	1260	4.040
		DRM1664	203	8.00	25.6	1024	4.00	819	3.200	512	2.000	1189	4.645
		DRM1680	254	10.00	20.8	1040	5.00	832	4.000	520	2.500	1218	5.857
		DRM1696	305	12.00	16.8	1008	6.00	806	4.800	504	3.000	1187	7.067

Die Springs Medium Heavy Duty

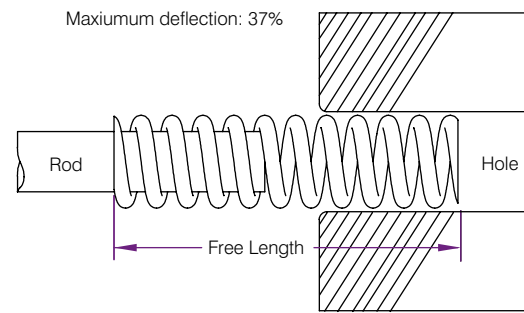
Silicone Chrome Die Springs
RaymondMedium/Heavy Duty
Colour - RED

Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Maximum Deflection 37% of Free Length		Deflection for Average life 25% of Free Length		Deflection for Long life 20% of Free Length		Total Travel to Solid	
			mm	in		Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
3/8" 10mm	3/16" 4.5mm	DRMH0308	25	1.00	9.0	33	0.370	23	0.250	17	0.200	41	0.456
		DRMH0310	32	1.25	74.3	34	0.462	23	0.312	18	0.250	45	0.611
		DRMH0312	38	1.50	6.7	37	0.555	25	0.375	20	0.300	54	0.802
		DRMH0314	44	1.75	5.8	35	0.647	25	0.437	20	0.250	52	0.922
		DRMH0316	51	2.00	5.0	37	0.740	25	0.500	20	0.400	53	1.054
		DRMH0320	64	2.50	4.2	39	0.925	26	0.625	21	0.500	56	1.341
		DRMH0324	76	3.00	3.0	33	1.110	23	0.750	18	0.600	48	1.605
		DRMH0396	305	12.00	0.9	40	4.440	27	3.000	22	2.400	62	7.081
1/2" 13mm	9/32" 7mm	DRMH0408	25	1.00	16.8	62	0.370	42	0.250	34	0.200	84	0.499
		DRMH0410	32	1.25	13.9	64	0.462	43	0.312	35	0.250	90	0.647
		DRMH0412	38	1.50	12.0	67	0.555	45	0.375	36	0.300	97	0.811
		DRMH0414	44	1.75	10.4	67	0.647	45	0.437	36	0.350	100	0.962
		DRMH0416	51	2.00	8.7	64	0.740	44	0.500	35	0.400	96	1.108
		DRMH0420	64	2.50	6.8	63	0.925	43	0.625	34	0.500	95	1.404
		DRMH0424	76	3.00	2.7	63	1.110	43	0.750	34	0.600	98	1.717
		DRMH0428	89	3.50	4.7	61	1.295	41	0.875	33	0.700	94	1.998
5/8" 16mm	11/32" 8.5mm	DRMH0508	25	1.00	27.7	102	0.370	69	0.250	55	0.200	106	0.383
		DRMH0510	32	1.25	20.8	96	0.462	65	0.312	52	0.250	104	0.498
		DRMH0512	38	1.50	19.0	105	0.555	71	0.375	57	0.300	126	0.664
		DRMH0514	44	1.75	16.8	109	0.647	73	0.437	59	0.350	141	0.837
		DRMH0516	51	2.00	14.8	110	0.740	74	0.500	59	0.400	148	0.997
		DRMH0520	64	2.50	11.5	106	0.925	72	0.625	58	0.500	143	1.246
		DRMH0524	76	3.00	10.0	111	1.110	75	0.750	60	0.600	156	1.558
		DRMH0528	89	3.50	8.5	110	1.295	74	0.875	60	0.700	155	1.828
3/4" 19mm	3/8" 9.5mm	DRMH0532	102	4.00	7.6	112	1.482	76	1.000	61	0.800	166	2.182
		DRMH0596	305	12.00	2.7	120	4.440	81	3.000	65	2.400	184	6.817
		DRMH0608	25	1.00	57.6	213	0.370	144	0.250	115	0.200	259	0.450
		DRMH0610	32	1.25	44.8	207	0.462	140	0.361	112	0.250	265	0.592
		DRMH0612	38	1.50	32.0	178	0.555	120	0.375	96	0.300	235	0.735
		DRMH0614	44	1.75	28.8	186	0.647	126	0.437	101	0.350	252	0.874
		DRMH0616	51	2.00	24.8	184	0.740	124	0.500	99	0.400	253	1.020
		DRMH0620	64	2.50	19.2	178	0.925	120	0.625	96	0.500	251	1.305
3/4" 19mm	3/8" 9.5mm	DRMH0624	76	3.00	14.4	160	1.110	108	0.750	86	0.600	229	1.590
		DRMH0628	89	3.50	12.8	166	1.295	112	0.875	90	0.700	240	1.875
		DRMH0632	102	4.00	12.0	178	1.480	120	1.000	96	0.800	259	2.160
		DRMH0636	115	4.50	11.2	186	1.665	136	1.125	101	0.900	274	2.445
		DRMH0640	127	5.00	10.4	192	1.850	130	1.250	104	1.000	286	2.753
		DRMH0644	139	5.50	9.6	195	2.035	132	1.375	106	1.100	289	3.014
		DRMH0648	152	6.00	8.0	178	2.220	120	1.500	96	1.200	264	3.300
		DRMH0696	305	12.00	3.6	160	4.440	108	3.000	86	2.400	232	6.455



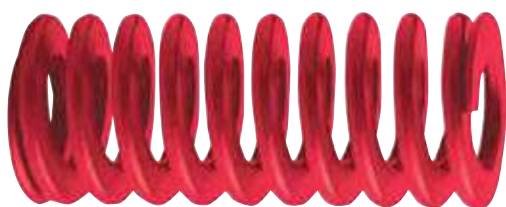
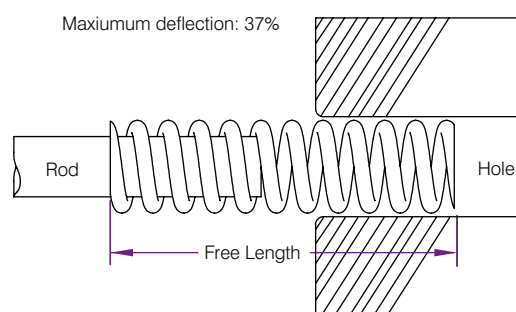
Silicone Chrome Die Springs
Raymond

Medium/Heavy Duty
Colour - RED



Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Maximum Deflection 37% of Free Length		Deflection for Average life 25% of Free Length		Deflection for Long life 20% of Free Length		Total Travel to Solid	
			mm	in		Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
1" 25mm	1/2" 12.5mm	DRMH0808	25	1.00	72.0	266	0.370	180	0.250	144	0.200	297	0.412
		DRMH0810	32	1.25	62.4	288	0.462	195	0.312	156	0.250	300	0.481
		DRMH0812	38	1.50	49.6	275	0.555	186	0.375	149	0.300	350	0.706
		DRMH0814	44	1.75	44.0	285	0.647	192	0.437	154	0.350	364	0.828
		DRMH0816	51	2.00	36.8	272	0.740	184	0.500	147	0.400	368	1.000
		DRMH0820	64	2.50	28.8	266	0.925	180	0.625	144	0.500	373	1.295
		DRMH0824	76	3.00	23.2	258	1.110	174	0.750	139	0.600	369	1.589
Wire 0.115 x 0.218		DRMH0828	89	3.50	21.6	280	1.295	189	0.875	151	0.700	407	1.883
		DRMH0832	102	4.00	18.4	272	1.480	184	1.000	147	0.800	401	2.179
		DRMH0836	115	4.50	15.2	253	1.665	171	1.125	137	0.900	376	2.471
		DRMH0840	127	5.00	14.4	266	1.850	180	1.250	144	1.000	398	2.766
		DRMH0844	139	5.50	12.8	260	2.035	176	1.375	141	1.100	377	2.942
		DRMH0848	152	6.00	11.2	249	2.220	168	1.500	134	1.200	362	3.236
		DRMH0856	178	7.00	9.6	249	2.590	168	1.750	134	1.400	367	3.825
		DRMH0864	203	8.00	8.8	260	2.960	176	2.000	141	1.600	388	4.413
1 1/4" 32mm	5/8 15.5mm	DRMH0896	305	12.00	5.6	249	4.440	168	3.000	134	2.400	379	6.767
		DRMH1012	38	1.50	114.4	635	0.555	429	0.375	343	0.300	752	0.657
		DRMH1014	44	1.75	100.8	652	0.647	440	0.437	353	0.350	790	0.784
		DRMH1016	51	2.00	86.4	639	0.740	432	0.500	346	0.400	792	0.917
		DRMH1020	64	2.50	62.4	577	0.925	390	0.625	312	0.500	734	1.176
		DRMH1024	76	3.00	51.2	568	1.110	384	0.750	307	0.600	735	1.435
		DRMH1028	89	3.50	44.0	570	1.295	385	0.875	308	0.700	745	1.694
		DRMH1032	102	4.00	36.8	545	1.480	368	1.000	294	0.800	719	1.954
		DRMH1036	115	4.50	32.0	533	1.665	360	1.125	288	0.900	708	2.213
		DRMH1040	127	5.00	27.2	503	1.850	340	1.250	272	1.000	672	2.472
Wire 0.156 x 0.281		DRMH1044	139	5.50	26.4	537	2.035	363	1.375	290	1.100	720	2.731
		DRMH1048	152	6.00	23.2	515	2.220	348	1.500	278	1.200	712	3.071
		DRMH1056	178	7.00	20.0	518	2.590	350	1.750	280	1.400	702	3.509
		DRMH1064	203	8.00	18.4	545	2.960	368	2.000	294	1.600	741	4.028
		DRMH1080	254	10.00	12.8	474	3.700	320	2.500	256	2.000	648	5.065
		DRMH1096	305	12.00	11.2	497	4.440	336	3.000	269	2.400	683	6.102

Die Springs Medium Heavy Duty

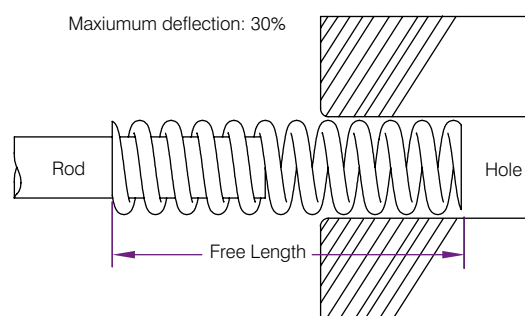
Silicone Chrome Die Springs
RaymondMedium/Heavy Duty
Colour - RED

Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Maximum Deflection 37% of Free Length		Deflection for Average life 25% of Free Length		Deflection for Long life 20% of Free Length		Total Travel to Solid	
			mm	in		Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
1 1/2" 38mm	3/4" 19mm	DRMH1216	51	2.00	108.0	799	0.740	540	0.500	432	0.400	966	0.894
		DRMH1220	64	2.50	85.6	792	0.925	535	0.625	428	0.500	988	1.154
		DRMH1224	76	3.00	62.4	693	1.100	468	0.750	374	0.600	882	1.414
		DRMH1228	89	3.50	52.8	684	1.295	462	0.875	370	0.700	883	1.673
		DRMH1232	102	4.00	48.0	710	1.480	480	1.000	384	0.800	928	1.933
		DRMH1236	115	4.50	43.2	719	1.665	486	1.125	389	0.900	947	2.192
		DRMH1240	127	5.00	36.8	681	1.850	460	1.250	368	1.000	902	2.452
		DRMH1244	139	5.50	34.4	700	2.035	473	1.375	378	1.100	933	2.712
		DRMH1248	152	6.00	30.4	675	2.220	456	1.500	365	1.200	903	2.971
		DRMH1256	178	7.00	26.4	684	2.590	462	1.750	370	1.400	934	3.359
		DRMH1264	203	8.00	20.8	616	2.960	416	2.000	333	1.600	844	4.058
		DRMH1280	254	10.00	17.6	651	3.700	440	2.500	352	2.000	907	5.154
		DRMH1296	305	12.00	14.4	639	4.440	432	3.000	346	2.400	883	6.135
2" 51mm	1" 25mm	DRMH1620	64	2.50	118.4	1095	0.925	740	0.625	592	0.500	1326	1.120
		DRMH1624	76	3.00	96.0	1066	1.110	720	0.750	576	0.600	1334	1.390
		DRMH1628	89	3.50	80.0	1036	1.295	700	0.875	560	0.700	1328	1.660
		DRMH1632	102	4.00	66.4	983	1.480	664	1.000	531	0.800	1282	1.930
		DRMH1636	115	4.50	60.0	999	1.665	675	1.125	540	0.900	1320	2.200
		DRMH1640	127	5.00	56.0	1036	1.850	700	1.250	560	1.000	1383	2.470
		DRMH1644	139	5.50	50.4	1026	2.035	693	1.375	554	1.100	1381	2.740
		DRMH1648	152	6.00	47.2	1048	2.220	708	1.500	566	1.220	1421	3.010
		DRMH1656	178	7.00	40.0	1036	2.590	700	1.750	560	1.400	1420	3.550
		DRMH1664	203	8.00	35.2	1042	2.960	704	2.000	563	1.600	1440	4.090
		DRMH1680	254	10.00	24.0	888	3.700	600	2.500	480	2.000	1241	5.170
		DRMH1696	305	12.00	22.4	995	4.440	672	3.000	538	2.400	1400	6.250



Silicone Chrome Die Springs
Raymond

Heavy Duty
Colour - GOLD

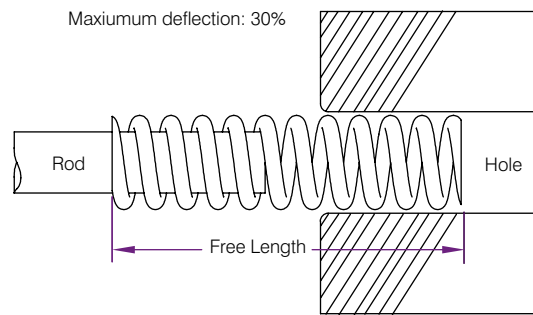


Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Maximum Deflection 30% of Free Length		Deflection for Average life 20% of Free Length		Deflection for Long life 15% of Free Length		Total Travel to Solid	
			mm	in		Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
3/8" 10mm	3/16" 4.5mm	DRH0308	25	1.00	12.4	37	0.300	25	0.200	18	0.150	44	0.354
		DRH0310	32	1.25	9.8	37	0.375	25	0.250	18	0.187	45	0.463
		DRH0312	38	1.50	9.6	43	0.450	29	0.300	22	0.225	55	0.573
		DRH0314	44	1.75	8.4	44	0.525	29	0.350	22	0.262	58	0.686
		DRH0316	51	2.00	7.2	43	0.600	29	0.400	22	0.300	57	0.792
		DRH0320	64	2.50	6.0	45	0.750	30	0.500	23	0.375	66	1.011
		DRH0324	76	3.00	4.2	38	0.900	25	0.600	19	0.450	51	1.216
		DRH0396	305	12.00	1.2	43	3.600	29	2.400	22	1.800	70	5.818
1/2" 13mm	9/32" 7mm	DRH0408	25	1.00	23.6	71	0.300	47	0.200	35	0.150	107	0.455
		DRH0410	32	1.25	18.6	70	0.375	47	0.250	35	0.187	109	0.587
		DRH0412	38	1.50	16.4	74	0.450	49	0.300	37	0.225	121	0.737
		DRH0414	44	1.75	13.8	72	0.525	48	0.350	36	0.262	116	0.844
		DRH0416	51	2.00	11.0	66	0.600	44	0.400	33	0.300	110	1.000
		DRH0420	64	2.50	8.4	63	0.750	42	0.500	32	0.375	106	1.264
		DRH0424	76	3.00	7.4	67	0.900	44	0.600	33	0.450	113	1.528
		DRH0428	89	3.50	6.4	67	1.050	45	0.700	34	0.525	116	1.810
5/8" 16mm	11/32" 8.5mm	DRH0508	25	1.00	42.4	127	0.300	85	0.200	64	0.150	151	0.357
		DRH0510	32	1.25	29.6	111	0.375	74	0.250	55	0.187	140	0.474
		DRH0512	38	1.50	27.2	122	0.450	82	0.300	61	0.225	165	0.606
		DRH0514	44	1.75	24.0	126	0.525	84	0.350	63	0.262	175	0.730
		DRH0516	51	2.00	20.8	125	0.600	83	0.400	62	0.300	179	0.860
		DRH0520	64	2.50	17.0	128	0.750	85	0.500	64	0.375	190	1.118
		DRH0524	76	3.00	14.4	130	0.900	86	0.600	65	0.450	198	1.375
		DRH0528	89	3.50	12.2	128	1.050	85	0.700	64	0.525	199	1.633
		DRH0532	102	4.00	10.8	130	1.200	86	0.800	65	0.600	204	1.890
		DRH0596	305	12.00	4.0	144	3.600	96	2.400	72	1.800	201	5.016
		DRH0608	25	1.00	108.0	324	0.300	216	0.200	162	0.150	324	0.300
		DRH0610	32	1.25	86.8	326	0.375	217	0.250	162	0.187	353	0.407
3/4" 19mm	3/8" 9.5mm	DRH0612	38	1.50	65.6	295	0.450	197	0.300	148	0.225	337	0.514
		DRH0614	44	1.75	60.0	315	0.525	210	0.350	157	0.262	361	0.601
		DRH0616	51	2.00	49.6	298	0.600	198	0.400	149	0.300	361	0.728
		DRH0620	64	2.50	37.6	282	0.750	188	0.500	141	0.375	354	0.924
		DRH0624	76	3.00	31.2	281	0.900	187	0.600	140	0.450	361	1.156
		DRH0628	89	3.50	26.4	277	1.050	185	0.700	139	0.525	361	1.369
		DRH0632	102	4.00	23.2	278	1.200	186	0.800	139	0.600	367	1.583
		DRH0636	115	4.50	20.0	270	1.350	180	0.900	135	0.675	359	1.797
		DRH0640	127	5.00	17.6	264	1.500	176	1.000	132	0.750	354	2.011
		DRH0646	139	5.50	16.0	264	1.650	176	1.100	132	0.825	356	2.225
		DRH0648	152	6.00	14.4	259	1.800	173	1.200	130	0.900	351	2.438
		DRH0696	305	12.00	7.2	259	3.600	173	2.400	130	1.800	382	5.300



Silicone Chrome Die Springs
Raymond

Heavy Duty
Colour - GOLD



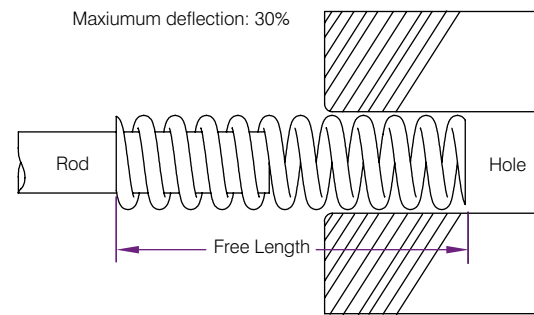
Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Maximum Deflection 30% of Free Length		Deflection for Average life 20% of Free Length		Deflection for Long life 15% of Free Length		Total Travel to Solid	
			mm	in		Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
1" 25mm	1/2" 12.5mm	DRH0808	25	1.00	208.0		0.270	416	0.200	312	0.150	614	0.295
		DRH0810	32	1.25	171.2		0.380	428	0.250	320	0.187	540	0.315
		DRH0812	38	1.50	118.4	533	0.450	355	0.300	266	0.225	598	0.505
		DRH0814	44	1.75	104.0	546	0.525	364	0.350	272	0.262	655	0.630
		DRH0816	51	2.00	84.0	504	0.600	336	0.400	252	0.300	600	0.714
		DRH0820	64	2.50	68.0	510	0.750	340	0.500	255	0.375	628	0.924
		DRH0824	76	3.00	54.4	490	0.900	326	0.600	245	0.450	617	1.134
		DRH0828	89	3.50	45.6	479	1.050	319	0.700	239	0.525	612	1.343
		DRH0832	102	4.00	40.0	480	1.200	320	0.800	240	0.600	621	1.553
		DRH0836	115	4.50	35.2	475	1.350	317	0.900	238	0.675	621	1.763
		DRH0840	127	5.00	31.2	468	1.500	312	1.000	234	0.750	615	1.972
		DRH0844	139	5.50	28.8	475	1.650	317	1.100	238	0.825	628	2.182
		DRH0848	152	6.00	25.6	461	1.800	307	1.200	230	0.900	612	2.392
		DRH0856	178	7.00	22.4	470	2.100	314	1.400	235	1.050	630	2.811
		DRH0864	203	8.00	19.2	461	2.400	307	1.600	230	1.200	620	3.230
		DRH0896	305	12.00	12.0	432	3.600	288	2.400	216	1.800	589	4.908

1 1/4" 32mm	5/8" 15.5mm	DRH1012	38	1.50	212.0	954	0.450	636	0.300	477	0.225	954	0.450
		DRH1014	44	1.75	181.6	953	0.525	636	0.350	476	0.262	1017	0.560
		DRH1016	51	2.00	149.6	898	0.600	598	0.400	449	0.300	950	0.635
		DRH1020	64	2.50	117.6	882	0.750	588	0.500	441	0.375	964	0.820
		DRH1024	76	3.00	95.2	857	0.900	571	0.600	428	0.450	957	1.005
		DRH1028	89	3.50	75.2	790	1.050	526	0.700	395	0.525	895	1.190
		DRH1032	102	4.00	66.4	797	1.200	531	0.800	398	0.600	913	1.375
		DRH1036	115	4.50	58.4	788	1.350	526	0.900	394	0.675	911	1.560
		DRH1040	127	5.00	49.6	744	1.500	496	1.000	372	0.750	866	1.745
		DRH1048	152	6.00	42.4	763	1.800	509	1.200	382	0.900	897	2.115
		DRH1056	178	7.00	36.8	773	2.100	515	1.400	386	1.050	914	2.485
		DRH1064	203	8.00	32.8	787	2.400	525	1.600	394	1.200	936	2.855
		DRH1080	254	10.00	25.6	768	3.000	512	2.000	384	1.500	920	3.595
		DRH1096	305	12.00	20.8	749	3.600	499	2.400	374	1.800	902	4.335



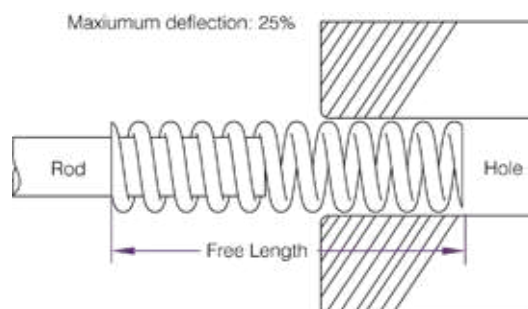
Silicone Chrome Die Springs
Raymond

Heavy Duty
Colour - GOLD



Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Maximum Deflection 30% of Free Length		Deflection for Average life 20% of Free Length		Deflection for Long life 15% of Free Length		Total Travel to Solid	
			mm	in		Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
1 1/2" 38mm	3/4" 19mm	DRH1216	51	2.00	190.4	1142	0.600	762	0.400	571	0.300	1346	0.707
		DRH1220	64	2.50	148.8	1116	0.750	744	0.500	558	0.375	1446	0.972
		DRH1224	76	3.00	122.4	1102	0.900	734	0.600	551	0.450	1443	1.179
		DRH1228	89	3.50	106.4	1117	1.050	745	0.700	559	0.525	1535	1.443
		DRH1232	102	4.00	91.2	1094	1.200	730	0.800	547	0.600	1505	1.650
		DRH1236	115	4.50	78.4	1058	1.350	706	0.900	529	0.675	1478	1.885
		DRH1240	127	5.00	71.2	1068	1.500	712	1.000	534	0.750	1509	2.120
		DRH1244	139	5.50	64.0	1056	1.650	704	1.100	528	0.825	1508	2.357
		DRH1248	152	6.00	58.4	1051	1.800	701	1.200	526	0.900	1514	2.592
		DRH1256	178	7.00	49.6	1042	2.100	694	1.400	521	1.050	1520	3.064
		DRH1264	203	8.00	43.2	1037	2.400	691	1.600	518	1.200	1527	3.535
		DRH1280	254	10.00	34.4	1032	3.000	688	2.000	516	1.500	1540	4.477
		DRH1296	305	12.00	28.8	1037	3.600	691	2.400	518	1.800	1561	5.420
2" 51mm	1" 25mm	DRH1620	64	2.50	220.0	1650	0.750	1100	0.500	825	0.375	1982	0.901
		DRH1624	76	3.00	185.6	1670	0.900	1114	0.600	835	0.450	2189	1.147
		DRH1628	89	3.50	160.0	1680	1.050	1220	0.700	840	0.525	2227	1.392
		DRH1632	102	4.00	133.6	1603	1.200	1069	0.800	802	0.600	2188	1.638
		DRH1636	115	4.50	117.6	1588	1.350	1058	0.900	794	0.675	2216	1.884
		DRH1640	127	5.00	104.0	1560	1.500	1040	1.000	780	0.750	2214	2.129
		DRH1644	139	5.50	92.8	1531	1.650	1021	1.100	766	0.825	2204	2.375
		DRH1648	152	6.00	83.2	1498	1.800	998	1.200	749	0.900	2181	2.621
		DRH1656	178	7.00	73.6	1546	2.100	1030	1.400	773	1.050	2290	3.112
		DRH1664	203	8.00	64.0	1536	2.400	1024	1.600	768	1.200	2306	3.603
		DRH1680	254	10.00	48.8	1464	3.000	976	2.000	732	1.500	2238	4.586
		DRH1696	305	12.00	40.0	1440	3.600	960	2.400	720	1.800	2227	5.568

Die Springs Extra Heavy Duty

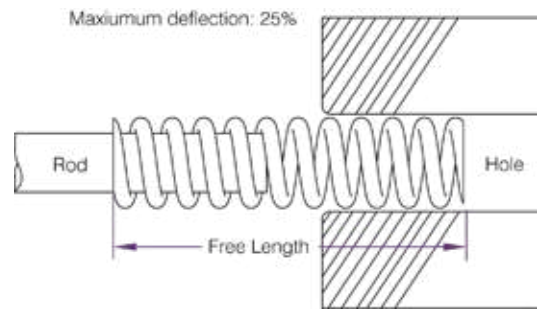
Silicone Chrome Die Springs
RaymondExtra Heavy Duty
Colour - GREEN

Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Maximum Deflection 25% of Free Length		Deflection for Average life 20% of Free Length		Deflection for Long life 15% of Free Length		Total Travel to Solid	
			mm	in		Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
3/8" 10mm	3/16" 4.5mm	DRX0308	25	1	22	55	0.250	44	0.200	33	0.150	56	0.275
		DRX0310	32	1.25	17	53.2	0.312	43	0.250	32	0.187	54	0.350
		DRX0312	38	1.5	14.5	54.4	0.375	43	0.300	32	0.225	57	0.440
		DRX0314	44	1.75	11.5	50.4	0.437	39	0.350	29	0.262	55	0.480
		DRX0316	51	2	10	50	0.500	40	0.400	30	0.300	54	0.600
		DRX0320	64	2.5	8	50	0.625	40	0.500	30	0.375	55	0.770
		DRX0324	76	3	6.5	48.8	0.750	39	0.600	29	0.450	55	0.920
		DRX0396	305	12	1.5	45	3.000	36	2.400	27	1.800	58	3.850
1/2" 13mm	9/32" 7mm	DRX0408	25	1	32	80	0.250	64	0.200	48	0.150	103	0.295
		DRX0410	32	1.25	24	75.1	0.312	60	0.250	45	0.187	97	0.360
		DRX0412	38	1.5	20	75	0.375	60	0.300	45	0.225	103	0.470
		DRX0414	44	1.75	17	74.5	0.437	60	0.350	45	0.262	99	0.530
		DRX0416	51	2	14	70	0.500	56	0.400	42	0.300	126	0.680
		DRX0420	64	2.5	11.5	71.9	0.625	56	0.500	42	0.375	102	0.800
		DRX0424	76	3	9	67.5	0.750	54	0.600	41	0.450	102	0.980
5/8" 16mm	11/32" 8.5mm	DRX0508	25	1	63	157.5	0.250	126	0.200	95	0.150	208	0.280
		DRX0510	32	1.25	47	147.1	0.312	117	0.250	88	0.187	187	0.340
		DRX0512	38	1.5	38	142.5	0.375	114	0.300	86	0.225	184	0.420
		DRX0514	44	1.75	32	140.2	0.437	112	0.350	84	0.262	181	0.490
		DRX0516	51	2	29	145	0.500	116	0.400	87	0.300	180	0.560
		DRX0520	64	2.5	22	137.5	0.625	110	0.500	83	0.375	195	0.780
		DRX0524	76	3	18	135	0.750	108	0.600	81	0.450	200	0.980
3/4" 19mm	3/8" 9.5mm	DRX0608	25	1	140	350	0.250	280	0.200	210	0.150	335	0.215
		DRX0610	32	1.25	110	344.3	0.312	275	0.250	206	0.187	340	0.300
		DRX0612	38	1.5	89	333.8	0.375	268	0.300	200	0.225	420	0.460
		DRX0614	44	1.75	75	328.5	0.437	264	0.350	198	0.262	350	0.460
		DRX0616	51	2	63.5	317.5	0.500	254	0.400	190	0.300	330	0.510
		DRX0620	64	2.5	50	312.5	0.625	250	0.500	188	0.375	355	0.710
		DRX0624	76	3	40.5	303.7	0.750	243	0.600	182	0.450	345	0.840
		DRX0628	89	3.5	34.5	301.9	0.875	242	0.700	181	0.525	360	1.040
		DRX0632	102	4	30	300	1.000	240	0.800	180	0.600	360	1.200
		DRX0648	152	6.	19.5	292.5	1.500	234	1.200	176	0.900	380	1.850
1" 25mm	1/2" 12.5mm	DRX0812	38	1.5	184.8	693	0.375	555	0.300	416	0.225	632	0.342
		DRX0816	51	2	116	580	0.500	464	0.400	348	0.300	567	0.489
		DRX0820	64	2.5	89.6	560	0.625	448	0.500	336	0.375	571	0.637
		DRX0824	76	3	73.6	552	0.750	442	0.600	331	0.450	615	0.835
		DRX0828	89	3.5	62.4	546	0.875	437	0.700	328	0.525	613	0.982
		DRX0832	102	4	55.2	552	1.000	442	0.800	331	0.600	651	1.180
		DRX0840	127	5	43.2	540	1.375	432	1.000	324	0.750	659	1.526
		DRX0848	152	6	36	540	1.500	432	1.200	324	0.900	674	1.871



Silicone Chrome Die Springs
Raymond

Extra Heavy Duty
Colour - GREEN



Hole Dia.	Rod Dia.	Product Code	Free Length		lb at 1/10" Defl	Maximum Deflection 25% of Free Length		Deflection for Average life 20% of Free Length		Deflection for Long life 15% of Free Length		Total Travel to Solid	
			mm	in		Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.	Pressure Pounds	Length of Defl.
1 1/4" 32mm	5/8" 15.5mm	DRX1016	51	2	192	960	0.500	768	0.400	577	0.300	1002	0.522
		DRX1020	64	2.5	144	900	0.625	720	0.500	540	0.375	1045	0.726
		DRX1024	76	3	118.4	888	0.750	710	0.600	533	0.450	1102	0.931
		DRX1028	89	3.5	100.8	882	0.875	706	0.700	530	0.525	1144	1.135
		DRX1032	102	4	84	840	1.000	673	0.800	505	0.600	1075	1.280
		DRX1036	115	4.5	78.4	882	1.125	706	0.900	529	0.675	1164	1.485
		DRX1040	127	5	68	850	1.375	680	1.000	510	0.750	1149	1.689
		DRX1048	152	6	56	840	1.500	672	1.200	504	0.900	1142	2.039
1 1/2" 38mm	3/4" 19mm	DRX1216	51	2	376	1880	0.500	1505	0.400	1128	0.300	1950	0.495
		DRX1220	64	2.5	294.4	1840	0.625	1472	0.500	1104	0.375	1840	0.625
		DRX1224	76	3	231.2	1734	0.750	1387	0.600	1040	0.450	1896	0.820
		DRX1228	89	3.5	196	1715	0.875	1372	0.700	1029	0.525	1911	0.975
		DRX1232	102	4	171.2	1712	1.000	1370	0.800	1027	0.600	2001	1.169
		DRX1236	115	4.5	148	1665	1.125	1332	0.900	999	0.675	2017	1.363
		DRX1240	127	5	136	1700	1.375	1360	1.000	1020	0.750	2118	1.557
		DRX1248	152	6	110.4	1656	1.500	1325	1.200	994	0.900	2147	1.945
		DRX1264	203	8	80.8	1616	2.000	1293	1.600	970	1.200	2199	2.721
2" 51mm	1" 25mm	DRX1620	64	2.5	381.6	2385	0.625	1908	0.500	1431	0.375	2851	0.747
		DRX1624	76	3	312	2340	0.750	1872	0.600	1404	0.450	2702	0.866
		DRX1628	89	3.5	254.4	2226	0.875	1781	0.700	1336	0.525	2310	0.908
		DRX1632	102	4	220	2200	1.000	1760	0.800	1320	0.600	2691	1.223
		DRX1636	115	4.5	188.8	2124	1.125	1700	0.900	1274	0.675	2622	1.389
		DRX1640	127	5	172.8	2164	1.250	1728	1.000	1296	0.750	2428	1.405
		DRX1648	152	6	141.6	2124	1.500	1700	1.200	1275	0.900	2280	1.610
		DRX1664	203	8	100	2000	2.000	1600	1.600	1200	1.200	2234	2.234
		DRX1680	254	10	84	2100	2.500	1680	2.000	1260	1.500	2448	2.914
		DRX1696	305	12	71.2	2136	3.000	1710	2.410	1282	1.800	3184	4.472

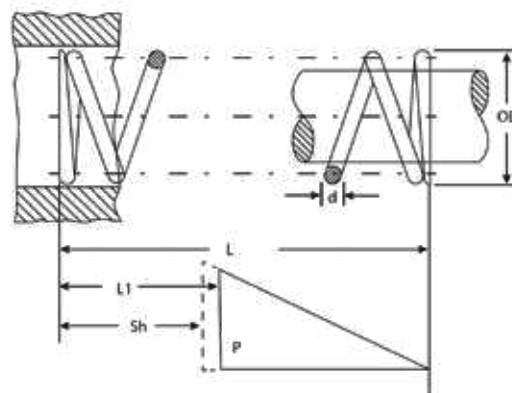


SPEC compression springs provide design engineers, draughtsmen, production and maintenance departments with precision-engineered springs in an economical and time saving way.

The SPEC service saves time and therefore money as design work and calculations are no longer required.

- Music wire ex-stock
- Stainless available upon request

Hales Australia is the official distributor for the SPEC Spring Range.



Product Code	Outside Dia. (OD)	Wire Dia (d).	Free Length (L) Approx.	Load Length (L1)	Solid Height (Sh) Approx.	Load (P) at L1	Spring Rate (R)
	mm	mm	mm	mm	mm	N	N/mm
C0120-014-0310	3.05	0.36	7.87	4.24	2.97	5.47	1.51
C0120-014-0500	3.05	0.36	12.70	6.68	4.27	5.47	0.91
C0120-014-0750	3.05	0.36	19.05	9.78	5.97	5.47	0.60
C0120-014-1000	3.05	0.36	25.40	12.90	7.65	5.47	0.44
C0120-014-1250	3.05	0.36	31.75	16.05	9.35	5.47	0.35
C0120-014-1500	3.05	0.36	38.10	19.71	11.02	5.47	0.30
C0120-016-0500	3.05	0.41	12.70	7.11	5.28	8.18	1.45
C0120-016-1250	3.05	0.41	31.75	17.15	11.76	8.18	0.56
C0120-016-1500	3.05	0.41	38.10	21.41	13.82	8.18	0.49
C0120-018-0500	3.05	0.46	12.70	7.75	6.30	11.39	2.29
C0120-018-0750	3.05	0.46	19.05	11.38	9.12	11.39	1.49
C0120-018-1250	3.05	0.46	31.75	19.00	14.20	11.39	0.89
C0120-018-1500	3.05	0.46	38.10	22.61	16.84	11.39	0.74
C0120-020-0500	3.05	0.51	12.70	8.59	7.24	14.72	3.57
C0120-020-0750	3.05	0.51	19.05	12.70	10.34	14.72	2.31
C0120-020-1000	3.05	0.51	25.40	16.81	13.46	14.72	1.72
C0120-020-1250	3.05	0.51	31.75	20.93	16.56	14.72	1.37
C0120-020-1500	3.05	0.51	38.10	25.02	19.66	14.72	1.12
C0120-022-0500	3.05	0.56	12.70	9.04	8.10	19.93	5.45
C0120-022-0750	3.05	0.56	19.05	13.41	11.71	19.93	3.54
C0120-022-1000	3.05	0.56	25.40	17.65	15.24	19.93	2.57
C0120-022-1250	3.05	0.56	31.75	22.02	18.77	19.93	2.05
C0148-023-0440	3.76	0.58	11.18	7.37	6.22	17.97	4.71
C0148-023-1000	3.76	0.58	25.40	16.15	12.57	17.97	1.94
C0180-012-1500	4.57	0.30	38.10	15.24	4.37	2.40	0.11
C0180-014-0500	4.57	0.36	12.70	5.33	2.54	3.74	0.51
C0180-014-0750	4.57	0.36	19.05	7.82	3.30	3.74	0.33
C0180-014-1000	4.57	0.36	25.40	10.16	4.09	3.74	0.25
C0180-014-1250	4.57	0.36	31.75	12.34	4.85	3.74	0.19
C0180-014-1500	4.57	0.36	38.10	14.40	5.64	3.74	0.16
C0180-016-0500	4.57	0.41	12.70	5.21	3.15	5.56	0.74
C0180-016-0750	4.57	0.41	19.05	7.62	4.24	5.56	0.49
C0180-016-1000	4.57	0.41	25.40	10.97	5.18	5.56	0.39
C0180-016-1250	4.57	0.41	31.75	13.08	6.22	5.56	0.30
C0180-016-1500	4.57	0.41	38.10	15.42	7.24	5.56	0.25
C0180-018-0500	4.57	0.46	12.70	6.07	3.66	7.83	1.17
C0180-018-0750	4.57	0.46	19.05	8.20	5.26	7.83	0.72
C0180-018-1000	4.57	0.46	25.40	11.43	6.40	7.83	0.56
C0180-018-1250	4.57	0.46	31.75	14.55	7.70	7.83	0.46
C0180-018-1500	4.57	0.46	38.10	16.81	9.02	7.83	0.37
C0180-018-1750	4.57	0.46	44.45	19.61	10.31	7.83	0.32

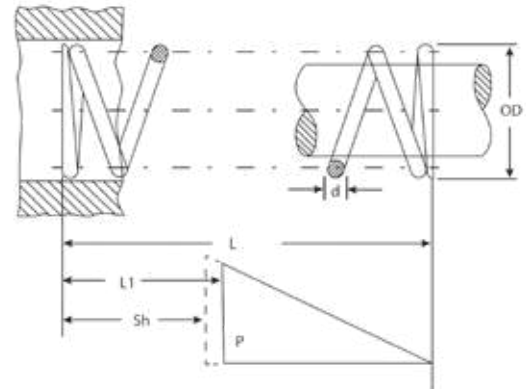


SPEC compression springs provide design engineers, draughtsmen, production and maintenance departments with precision-engineered springs in an economical and time saving way.

The SPEC service saves time and therefore money as design work and calculations are no longer required.

- Music wire ex-stock
- Stainless available upon request

Hales Australia is the official distributor for the SPEC Spring Range.



Product Code	Outside Dia. (OD)	Wire Dia (d).	Free Length (L) Approx.	Load Length (L1)	Solid Height (Sh) Approx.	Load (P) at L1	Spring Rate (R)
	mm	mm	mm	mm	mm	N	N/mm
C0180-020-0500	4.57	0.51	12.70	6.68	4.47	10.19	1.70
C0180-020-0750	4.57	0.51	19.05	9.75	6.07	10.19	1.10
C0180-020-1000	4.57	0.51	25.40	12.83	7.67	10.19	0.81
C0180-020-1500	4.57	0.51	38.10	18.72	10.90	10.19	0.53
C0180-020-1750	4.57	0.51	44.45	22.05	12.50	10.19	0.46
C0180-022-0500	4.57	0.56	12.70	7.11	4.88	13.92	2.49
C0180-022-0750	4.57	0.56	19.05	9.88	7.11	13.92	1.52
C0180-022-1000	4.57	0.56	25.40	13.16	9.02	13.92	1.14
C0180-022-1250	4.57	0.56	31.75	16.46	10.92	13.92	0.91
C0180-022-1500	4.57	0.56	38.10	19.61	12.85	13.92	0.75
C0180-024-0250	4.57	0.61	6.35	4.06	3.63	16.95	7.40
C0180-024-0310	4.57	0.61	7.87	4.90	4.17	16.95	5.71
C0180-024-0380	4.57	0.61	9.65	5.89	4.80	16.95	4.50
C0180-024-0440	4.57	0.61	11.18	6.73	5.33	16.95	3.82
C0180-024-0500	4.57	0.61	12.70	7.57	5.89	16.95	3.31
C0180-024-0560	4.57	0.61	14.22	8.41	6.43	16.95	2.92
C0180-024-0620	4.57	0.61	15.75	9.27	6.96	16.95	2.61
C0180-024-0750	4.57	0.61	19.05	11.10	8.13	16.95	2.14
C0180-024-0880	4.57	0.61	22.35	12.93	9.30	16.95	1.80
C0180-024-1000	4.57	0.61	25.40	14.61	10.36	16.95	1.58
C0180-024-1120	4.57	0.61	28.45	16.28	11.43	16.95	1.40
C0180-024-1250	4.57	0.61	31.75	18.11	12.60	16.95	1.24
C0180-024-1500	4.57	0.61	38.10	21.64	14.86	16.95	1.03
C0180-024-1750	4.57	0.61	44.45	25.15	17.09	16.95	0.88
C0180-024-2000	4.57	0.61	50.80	28.68	19.33	16.95	0.77
C0180-026-0500	4.57	0.66	12.70	7.92	6.27	22.37	4.69
C0180-026-0750	4.57	0.66	19.05	11.56	8.94	22.37	2.98
C0180-026-1000	4.57	0.66	25.40	14.94	11.71	22.37	2.14
C0180-026-1250	4.57	0.66	31.75	18.57	14.27	22.37	1.70
C0180-026-1500	4.57	0.66	38.10	22.12	16.84	22.37	1.40
C0180-026-2000	4.57	0.66	50.80	29.13	21.97	22.37	1.03
C0180-032-0500	4.57	0.81	12.70	9.25	8.10	39.28	11.36
C0180-032-0750	4.57	0.81	19.05	13.61	11.58	39.28	7.23
C0180-032-1000	4.57	0.81	25.40	17.78	15.44	39.28	5.15
C0180-032-1250	4.57	0.81	31.75	21.92	19.00	39.28	3.99
C0180-032-1500	4.57	0.81	38.10	26.16	22.48	39.28	3.29
C0180-032-2000	4.57	0.81	50.80	34.77	29.46	39.28	2.45
C0210-018-0750	5.33	0.46	19.05	7.49	4.34	6.67	0.58
C0210-018-1500	5.33	0.46	38.10	14.38	7.47	6.67	0.28
C0210-018-1750	5.33	0.46	44.45	17.25	8.48	6.67	0.25
C0210-018-2000	5.33	0.46	50.80	19.00	9.53	6.67	0.21

Product Code	Outside Dia. (OD)	Wire Dia (d).	Free Length (L) Approx.	Load Length (L1)	Solid Height (Sh) Approx.	Load (P) at L1	Spring Rate (R)
	mm	mm	mm	mm	mm	N	N/mm
C0210-022-0250	5.33	0.56	6.35	3.56	2.87	11.52	4.13
C0210-022-1500	5.33	0.56	38.10	18.16	10.13	11.52	0.58
C0210-026-1500	5.33	0.66	38.10	20.68	13.54	18.42	1.05
C0240-020-0500	6.10	0.51	12.70	5.82	3.23	7.78	1.12
C0240-020-1000	6.10	0.51	25.40	11.02	5.08	7.78	0.54
C0240-020-1500	6.10	0.51	38.10	15.88	6.93	7.78	0.35
C0240-020-2000	6.10	0.51	50.80	21.16	8.79	7.78	0.26
C0240-022-1000	6.10	0.56	25.40	10.95	5.99	10.63	0.74
C0240-024-0500	6.10	0.61	12.70	6.45	4.27	12.99	2.08
C0240-024-0750	6.10	0.61	19.05	9.35	5.61	12.99	1.33
C0240-024-1000	6.10	0.61	25.40	12.24	6.96	12.99	0.98
C0240-024-1500	6.10	0.61	38.10	18.03	9.63	12.99	0.65
C0240-024-2000	6.10	0.61	50.80	23.34	12.32	12.99	0.47
C0240-026-0500	6.10	0.66	12.70	7.09	4.29	17.13	3.05
C0240-026-0560	6.10	0.66	14.22	7.57	4.78	17.13	2.57
C0240-026-0750	6.10	0.66	19.05	9.25	6.25	17.13	1.75
C0240-026-1000	6.10	0.66	25.40	12.19	7.95	17.13	1.30
C0240-026-1500	6.10	0.66	38.10	18.14	11.10	17.13	0.86
C0240-026-2000	6.10	0.66	50.80	23.65	14.25	17.13	0.63
C0240-029-0500	6.10	0.74	12.70	7.32	5.61	22.02	4.08
C0240-029-0750	6.10	0.74	19.05	10.62	7.57	22.02	2.61
C0240-029-1000	6.10	0.74	25.40	13.92	9.50	22.02	1.93
C0240-029-1120	6.10	0.74	28.45	15.49	10.41	22.02	1.70
C0240-029-1500	6.10	0.74	38.10	20.52	13.36	22.02	1.26
C0240-029-1750	6.10	0.74	44.45	23.83	15.29	22.02	1.07
C0240-029-2000	6.10	0.74	50.80	27.13	17.22	22.02	0.93
C0240-032-0500	6.10	0.81	12.70	7.95	5.89	30.65	6.44
C0240-032-0750	6.10	0.81	19.05	11.05	8.51	30.65	3.84
C0240-032-1000	6.10	0.81	25.40	14.40	10.95	30.65	2.78
C0240-032-1500	6.10	0.81	31.75	17.75	13.36	30.65	2.19
C0240-032-2000	6.10	0.81	38.10	21.11	15.65	30.65	1.80
C0240-035-0500	6.10	0.89	12.70	8.33	7.26	37.10	8.49
C0240-035-0750	6.10	0.89	19.05	12.14	9.93	37.10	5.37
C0240-035-1000	6.10	0.89	25.40	15.95	12.60	37.10	3.92
C0240-035-1500	6.10	0.89	38.10	23.57	17.93	37.10	2.56
C0240-035-2000	6.10	0.89	50.80	31.19	23.27	37.10	1.89
C0240-040-0500	6.10	1.02	12.70	9.12	8.53	53.51	14.93
C0240-040-0750	6.10	1.02	19.05	13.34	11.79	53.51	9.36
C0240-040-1000	6.10	1.02	25.40	17.55	15.04	53.51	6.83
C0240-040-1500	6.10	1.02	38.10	25.98	21.56	53.51	4.41
C0240-040-2000	6.10	1.02	50.80	34.42	28.09	53.51	3.27
C0240-045-1000	6.10	1.14	25.40	19.30	16.94	71.93	11.78
C0240-045-1500	6.10	1.14	38.10	28.65	24.36	71.93	7.60
C0300-022-0500	7.62	0.56	12.70	5.21	2.77	8.59	1.16
C0300-022-0750	7.62	0.56	19.05	7.06	3.61	8.59	0.72
C0300-022-1000	7.62	0.56	25.40	10.08	4.45	8.59	0.56
C0300-022-1500	7.62	0.56	38.10	14.76	5.89	8.59	0.37
C0300-022-1750	7.62	0.56	44.45	17.22	6.63	8.59	0.32
C0300-022-2000	7.62	0.56	50.80	18.11	7.34	8.59	0.26
C0300-022-2500	7.62	0.56	63.50	25.78	8.48	8.59	0.23
C0300-026-0500	7.62	0.66	12.70	5.56	3.63	13.88	1.94
C0300-026-0750	7.62	0.66	19.05	8.33	4.62	13.88	1.30
C0300-026-1000	7.62	0.66	25.40	9.93	5.94	13.88	0.89
C0300-026-1500	7.62	0.66	38.10	15.47	7.95	13.88	0.61
C0300-026-2000	7.62	0.66	50.80	20.32	10.01	13.88	0.46
C0300-026-2500	7.62	0.66	63.50	27.56	11.56	13.88	0.39
C0300-030-1750	7.62	0.76	44.45	21.26	11.61	19.66	0.84
C0300-032-0500	7.62	0.81	12.70	6.68	4.83	24.87	4.13
C0300-032-0750	7.62	0.81	19.05	9.50	6.48	24.87	2.61
C0300-032-1000	7.62	0.81	25.40	11.94	8.28	24.87	1.86
C0300-032-1500	7.62	0.81	38.10	18.11	11.43	24.87	1.24
C0300-032-2000	7.62	0.81	50.80	24.00	14.55	24.87	0.93
C0300-032-2500	7.62	0.81	63.50	31.32	16.66	24.87	0.77

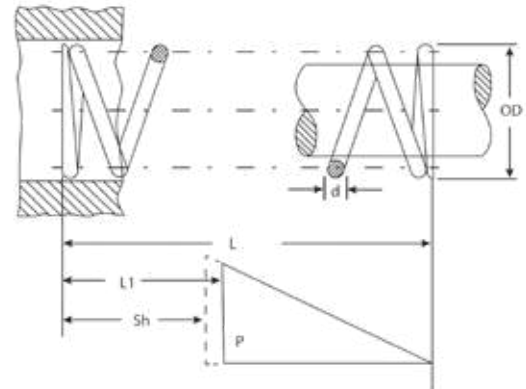


SPEC compression springs provide design engineers, draughtsmen, production and maintenance departments with precision-engineered springs in an economical and time saving way.

The SPEC service saves time and therefore money as design work and calculations are no longer required.

- Music wire ex-stock
- Stainless available upon request

Hales Australia is the official distributor for the SPEC Spring Range.



Product Code	Outside Dia. (OD)	Wire Dia (d).	Free Length (L) Approx.	Load Length (L1)	Solid Height (Sh) Approx.	Load (P) at L1	Spring Rate (R)
	mm	mm	mm	mm	mm	N	N/mm
C0300-035-1000	7.62	0.89	25.40	13.54	9.40	31.85	2.68
C0300-040-0500	7.62	1.02	12.70	8.05	6.99	43.81	9.43
C0300-040-0750	7.62	1.02	19.05	11.66	9.35	43.81	5.92
C0300-040-1000	7.62	1.02	25.40	15.24	11.68	43.81	4.31
C0300-040-1250	7.62	1.02	31.75	18.82	14.05	43.81	3.40
C0300-040-1500	7.62	1.02	38.10	22.40	16.38	43.81	2.80
C0300-040-2000	7.62	1.02	50.80	29.59	21.08	43.81	2.07
C0300-040-2500	7.62	1.02	63.50	36.78	25.78	43.81	1.65
C0300-049-0500	7.62	1.25	12.70	9.27	8.33	79.98	23.28
C0300-049-0750	7.62	1.25	19.05	13.49	11.68	79.98	14.35
C0300-049-1000	7.62	1.25	25.40	17.70	14.73	79.98	10.38
C0300-049-1250	7.62	1.25	31.75	21.89	17.78	79.98	8.12
C0300-049-1500	7.62	1.25	38.10	26.11	20.85	79.98	6.67
C0300-049-2000	7.62	1.25	50.80	34.54	26.95	79.98	4.92
C0300-049-2500	7.62	1.25	63.50	42.98	33.05	79.98	3.90
C0300-049-3000	7.62	1.25	76.20	51.41	39.14	79.98	3.22
C0360-026-0500	9.14	0.66	12.70	5.46	2.97	11.65	1.61
C0360-026-0750	9.14	0.66	19.05	8.20	3.63	11.65	1.07
C0360-026-1000	9.14	0.66	25.40	9.12	4.60	11.65	0.72
C0360-026-1500	9.14	0.66	38.10	14.33	6.15	11.65	0.49
C0360-026-2000	9.14	0.66	50.80	21.18	7.57	11.65	0.37
C0360-032-0500	9.14	0.81	12.70	6.02	4.04	21.00	3.13
C0360-032-0750	9.14	0.81	19.05	9.02	5.05	21.00	2.08
C0360-032-1000	9.14	0.81	25.40	11.35	6.27	21.00	1.49
C0360-032-1500	9.14	0.81	38.10	16.03	8.74	21.00	0.95
C0360-032-2000	9.14	0.81	50.80	20.83	11.02	21.00	0.70
C0360-032-2500	9.14	0.81	63.50	28.27	12.65	21.00	0.60
C0360-035-0500	9.14	0.89	12.70	6.73	4.95	25.49	4.27
C0360-035-0750	9.14	0.89	19.05	9.63	6.27	25.49	2.70
C0360-035-1000	9.14	0.89	25.40	12.52	7.62	25.49	1.98
C0360-035-1500	9.14	0.89	38.10	18.29	10.26	25.49	1.28
C0360-035-2000	9.14	0.89	50.80	24.05	12.93	25.49	0.95
C0360-035-2500	9.14	0.89	63.50	29.82	15.60	25.49	0.75
C0360-038-0500	9.14	0.97	12.70	7.01	5.05	33.94	5.97
C0360-038-0750	9.14	0.97	19.05	9.73	6.76	33.94	3.64
C0360-038-1000	9.14	0.97	25.40	12.47	8.43	33.94	2.63
C0360-038-1500	9.14	0.97	38.10	17.91	11.81	33.94	1.68
C0360-038-2000	9.14	0.97	50.80	23.88	14.91	33.94	1.26
C0360-038-2500	9.14	0.97	63.50	29.49	18.06	33.94	0.10
C0360-040-0500	9.14	1.02	12.70	7.34	5.94	37.01	6.90
C0360-040-0750	9.14	1.02	19.05	10.49	7.67	37.01	4.32

Product Code	Outside Dia. (OD)	Wire Dia (d).	Free Length (L) Approx.	Load Length (L1)	Solid Height (Sh) Approx.	Load (P) at L1	Spring Rate (R)
	mm	mm	mm	mm	mm	N	N/mm
C0360-040-1000	9.14	1.02	25.40	13.64	9.40	37.01	3.15
C0360-040-1500	9.14	1.02	38.10	19.96	12.83	37.01	2.05
C0360-040-2000	9.14	1.02	50.80	26.29	16.28	37.01	1.51
C0360-040-2500	9.14	1.02	63.50	32.59	19.74	37.01	1.19
C0360-049-0500	9.14	1.25	12.70	8.71	7.44	64.72	16.19
C0360-049-0750	9.14	1.25	19.05	12.57	9.75	64.72	9.98
C0360-049-1000	9.14	1.25	25.40	16.43	12.04	64.72	7.21
C0360-049-1250	9.14	1.25	31.75	20.29	14.35	64.72	5.65
C0360-049-1500	9.14	1.25	38.10	24.18	16.66	64.72	4.64
C0360-049-2000	9.14	1.25	50.80	31.90	21.26	64.72	3.43
C0360-049-2500	9.14	1.25	63.50	39.65	25.88	64.72	2.71
C0360-049-3500	9.14	1.25	88.90	55.09	35.10	64.72	1.91
C0360-055-1500	9.14	1.40	38.10	25.83	19.74	89.58	7.30
C0360-055-2000	9.14	1.40	50.80	34.11	25.32	89.58	5.37
C0390047-2000	9.91	1.19	50.80	28.02	18.97	53.82	2.36
C0420-035-0750	10.67	0.89	19.05	8.99	5.36	22.02	2.19
C0420-035-1000	10.67	0.89	25.40	11.63	6.35	22.02	1.59
C0420-035-1500	10.67	0.89	38.10	16.94	8.33	22.02	1.03
C0420-038-0750	10.67	0.97	19.05	7.49	5.66	29.36	2.54
C0420-038-1000	10.67	0.97	25.40	10.16	6.83	29.36	1.93
C0420-038-1500	10.67	0.97	38.10	14.73	9.45	29.36	1.26
C0420-038-2000	10.67	0.97	50.80	23.29	11.58	29.36	1.07
C0420-038-2500	10.67	0.97	63.50	28.85	13.51	29.36	0.84
C0420-042-0750	10.67	1.07	19.05	8.76	6.30	39.59	3.85
C0420-042-1000	10.67	1.07	25.40	11.30	7.87	39.59	2.80
C0420-042-1500	10.67	1.07	38.10	16.51	10.90	39.59	1.84
C0420-042-2000	10.67	1.07	50.80	22.89	14.17	39.59	1.42
C0420-042-2500	10.67	1.07	63.50	30.71	16.00	39.59	1.21
C0420-048-1000	10.67	1.22	25.40	14.17	10.34	53.25	4.74
C0420-048-1500	10.67	1.22	38.10	20.65	14.02	53.25	3.05
C0420-048-2000	10.67	1.22	50.80	27.13	17.73	53.25	2.26
C0420-055-1000	10.67	1.40	25.40	15.24	11.53	80.07	7.88
C0420-055-1500	10.67	1.40	38.10	22.35	16.38	80.07	5.08
C0420-055-2000	10.67	1.40	50.80	29.34	21.97	80.07	3.73
C0420-055-2500	10.67	1.40	63.50	36.32	26.67	80.07	2.94
C0420-063-0500	10.67	1.60	12.70	9.17	8.76	112.85	31.87
C0420-063-0750	10.67	1.60	19.05	13.16	12.09	112.85	19.11
C0420-063-1000	10.67	1.60	25.40	17.15	15.01	112.85	13.63
C0420-063-1500	10.67	1.60	38.10	25.10	20.85	112.85	8.68
C0420-063-2000	10.67	1.60	50.80	33.07	26.72	112.85	6.35
C0420-063-2250	10.67	1.60	57.15	37.06	29.64	112.85	5.62
C0420-063-2500	10.67	1.60	63.50	41.05	32.56	112.85	5.02
C0455-039-1500	11.56	0.99	38.10	17.32	8.99	27.62	1.33
C0480-035-1000	12.19	0.89	25.40	8.94	5.66	20.86	1.26
C0480-035-1500	12.19	0.89	38.10	12.78	7.29	20.86	0.82
C0480-035-2000	12.19	0.89	50.80	16.64	8.92	20.86	0.61
C0480-035-2500	12.19	0.89	63.50	20.96	10.52	20.86	0.49
C0480-035-3000	12.19	0.89	76.20	24.33	12.14	20.86	0.40
C0480-038-0500	12.19	0.97	12.70	5.08	3.66	26.69	3.50
C0480-038-1000	12.19	0.97	25.40	9.40	5.59	26.69	1.66
C0480-038-1500	12.19	0.97	38.10	12.70	7.75	26.69	1.05
C0480-038-2000	12.19	0.97	50.80	19.20	9.86	26.69	0.84
C0480-038-2500	12.19	0.97	63.50	27.05	10.90	26.69	0.74
C0480-038-3000	12.19	0.97	76.20	32.26	12.55	26.69	0.61
C0480-042-0500	12.19	1.07	12.70	5.59	4.24	34.70	4.90
C0480-042-1000	12.19	1.07	25.40	10.16	6.68	34.70	2.28
C0480-042-1500	12.19	1.07	38.10	14.73	9.09	34.70	1.49
C0480-042-2000	12.19	1.07	50.80	21.23	11.73	34.70	1.17
C0480-042-2500	12.19	1.07	63.50	28.58	13.21	34.70	1.00
C0480-042-3000	12.19	1.07	76.20	34.04	15.29	34.70	0.82
C0480-051-0500	12.19	1.30	12.70	7.52	6.48	55.65	10.73
C0480-051-1000	12.19	1.30	25.40	13.72	9.75	55.65	4.76
C0480-051-1500	12.19	1.30	38.10	19.91	13.03	55.65	3.06

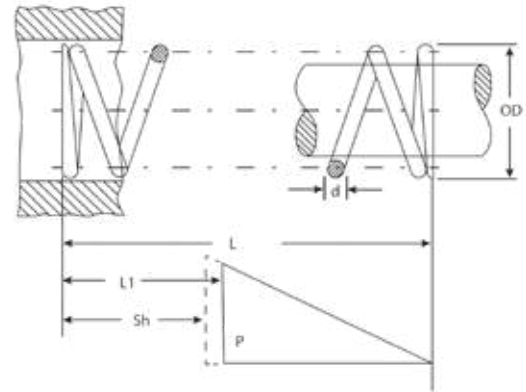


SPEC compression springs provide design engineers, draughtsmen, production and maintenance departments with precision-engineered springs in an economical and time saving way.

The SPEC service saves time and therefore money as design work and calculations are no longer required.

- Music wire ex-stock
- Stainless available upon request

Hales Australia is the official distributor for the SPEC Spring Range.



Product Code	Outside Dia. (OD)	Wire Dia (d).	Free Length (L) Approx.	Load Length (L1)	Solid Height (Sh) Approx.	Load (P) at L1	Spring Rate (R)
	mm	mm	mm	mm	mm	N	N/mm
C0480-051-2000	12.19	1.30	50.80	26.09	16.28	55.65	2.26
C0480-051-2500	12.19	1.30	63.50	32.28	19.56	55.65	1.79
C0480-051-3000	12.19	1.30	76.20	38.48	22.83	55.65	1.47
C0480-055-0500	12.19	1.40	12.70	6.99	6.25	72.06	12.60
C0480-055-1000	12.19	1.40	25.40	13.59	9.93	72.06	6.13
C0480-055-1500	12.19	1.40	38.10	19.43	14.15	72.06	3.85
C0480-055-2000	12.19	1.40	50.80	26.31	18.42	72.06	2.94
C0480-055-2500	12.19	1.40	63.50	32.56	22.20	72.06	2.33
C0480-055-3000	12.19	1.40	76.20	40.56	24.92	72.06	2.01
C0480-063-0500	12.19	1.60	12.70	7.82	7.52	102.31	21.00
C0480-063-0750	12.19	1.60	19.05	11.56	9.86	102.31	13.65
C0480-063-1000	12.19	1.60	25.40	15.11	12.32	102.31	9.98
C0480-063-1500	12.19	1.60	38.10	22.73	16.89	102.31	6.65
C0480-063-2000	12.19	1.60	50.80	29.87	22.73	102.31	4.88
C0480-063-2250	12.19	1.60	57.15	33.40	25.12	102.31	4.31
C0480-063-2500	12.19	1.60	63.50	36.96	27.51	102.31	3.85
C0480-0632750	12.19	1.60	69.85	40.56	29.90	102.31	3.48
C0480-063-3000	12.19	1.60	76.20	44.12	32.28	102.31	3.19
C0480-072-2000	12.19	1.83	50.80	33.99	26.70	144.48	8.58
C0600-049-1000	15.24	1.25	25.40	12.22	7.54	37.37	2.84
C0600-049-1500	15.24	1.25	38.10	17.60	9.65	37.37	1.82
C0600-049-2000	15.24	1.25	50.80	23.01	11.76	37.37	1.35
C0600-049-2500	15.24	1.25	63.50	28.40	13.87	37.37	1.07
C0600-049-3000	15.24	1.25	76.20	33.78	15.98	37.37	0.88
C0600-055-1000	15.24	1.40	25.40	12.70	7.72	53.38	4.20
C0600-055-1500	15.24	1.40	38.10	17.78	10.67	53.38	2.63
C0600-055-2000	15.24	1.40	50.80	23.83	14.27	53.38	1.98
C0600-055-2500	15.24	1.40	63.50	29.26	16.94	53.38	1.56
C0600-055-3000	15.24	1.40	76.20	36.17	19.10	53.38	1.33
C0600-063-1000	15.24	1.60	25.40	13.34	9.60	80.07	6.65
C0600-063-1500	15.24	1.60	38.10	19.05	13.36	80.07	4.20
C0600-063-2000	15.24	1.60	50.80	25.40	17.78	80.07	3.15
C0600-063-2500	15.24	1.60	63.50	31.29	21.23	80.07	2.49
C0600-063-3000	15.24	1.60	76.20	39.57	23.55	80.07	2.19
C0600-072-1000	15.24	1.83	25.40	14.35	12.75	106.76	9.63
C0600-072-1500	15.24	1.83	38.10	21.08	17.55	106.76	6.30
C0600-072-2000	15.24	1.83	50.80	28.96	21.54	106.76	4.90
C0600-072-2500	15.24	1.83	63.50	37.11	26.24	106.76	4.04
C0600-072-3000	15.24	1.83	76.20	44.25	30.63	106.76	3.34
C0600-081-1250	15.24	2.06	63.50	43.56	28.04	145.41	7.30
C0600-085-3000	15.24	2.16	76.20	53.31	34.90	167.34	7.30

Product Code	Outside Dia. (OD)	Wire Dia (d).	Free Length (L) Approx.	Load Length (L1)	Solid Height (Sh) Approx.	Load (P) at L1	Spring Rate (R)
	mm	mm	mm	mm	mm	N	N/mm
C0720-055-1000	18.29	1.40	25.40	11.68	6.30	43.37	3.24
C0720-055-1500	18.29	1.40	38.10	16.00	8.46	43.37	2.01
C0720-055-2000	18.29	1.40	50.80	20.83	10.44	43.37	1.48
C0720-055-2500	18.29	1.40	63.50	27.81	13.18	43.37	1.20
C0720-055-3000	18.29	1.40	76.20	33.07	15.06	43.37	0.99
C0720-063-1000	18.29	1.60	25.40	10.67	8.74	62.28	4.20
C0720-063-1500	18.29	1.60	38.10	14.48	12.07	62.28	2.63
C0720-063-2000	18.29	1.60	50.80	18.54	15.29	62.28	1.93
C0720-063-2500	18.29	1.60	63.50	30.58	16.61	62.28	1.89
C0720-063-3000	18.29	1.60	76.20	36.25	19.08	62.28	1.56
C0720-072-1000	18.29	1.83	25.40	12.70	10.08	93.41	7.35
C0720-072-1500	18.29	1.83	38.10	17.78	14.07	93.41	4.55
C0720-072-2000	18.29	1.83	50.80	24.13	17.20	93.41	3.50
C0720-072-2500	18.29	1.83	63.50	32.39	20.70	93.41	2.99
C0720-072-3000	18.29	1.83	76.20	38.38	23.93	93.41	2.47
C0720-072-3500	18.29	1.83	88.90	44.42	27.15	93.41	2.10
C0720-072-4000	18.29	1.83	101.60	51.18	30.02	93.41	1.86
C0720-081-1000	18.29	2.06	25.40	15.34	12.90	127.75	12.71
C0720-081-1500	18.29	2.06	38.10	22.05	16.89	127.75	7.96
C0720-081-2000	18.29	2.06	50.80	28.75	20.90	127.75	5.79
C0720-081-2500	18.29	2.06	63.50	35.46	24.92	127.75	4.55
C0720-081-3000	18.29	2.06	76.20	42.16	28.93	127.75	3.75
C0720-081-3500	18.29	2.06	88.90	48.87	32.94	127.75	3.19
C0720-081-4000	18.29	2.06	101.60	55.52	36.96	127.75	2.78
C0720-085-3500	18.29	2.16	88.90	53.64	32.61	149.42	4.24
C0720-112-3000	18.29	2.85	76.20	56.29	40.77	309.55	15.54
C0720-112-3500	18.29	2.85	88.90	65.41	46.58	309.55	13.18
C0850-068-4000	21.59	1.73	101.60	52.83	23.80	48.66	1.00
C0850-074-1000	21.59	1.88	25.40	15.11	9.75	61.65	5.99
C0850-074-2000	21.59	1.88	50.80	28.45	15.70	61.65	2.77
C0850-074-3000	21.59	1.88	76.20	41.78	21.64	61.65	1.79
C0850-081-1500	21.59	2.06	38.10	22.86	14.55	79.31	5.20
C0850-081-2000	21.59	2.06	50.80	29.87	18.08	79.31	3.78
C0850-081-2500	21.59	2.06	63.50	36.88	21.59	79.31	2.98
C0850-081-3000	21.59	2.06	76.20	43.89	25.12	79.31	2.45
C0850-092-1500	21.59	2.34	38.10	24.56	17.42	112.94	8.35
C0850-092-2000	21.59	2.34	50.80	32.13	21.84	112.94	6.04
C0850-092-2500	21.59	2.34	63.50	39.67	26.24	112.94	4.74
C0850-092-3000	21.59	2.34	76.20	47.24	30.66	112.94	3.90
C0850-098-1500	21.59	2.49	38.10	25.48	18.97	134.51	10.64
C0850-098-2000	21.59	2.49	50.80	33.32	23.88	134.51	7.70
C0850-098-2500	21.59	2.49	63.50	41.20	28.75	134.51	6.02
C0850-098-3000	21.59	2.49	76.20	49.05	33.66	134.51	4.95
C0850-098-3500	21.59	2.49	88.90	56.90	38.53	134.51	4.20
C0975-092-1000	24.77	2.34	25.40	16.10	11.58	99.24	10.68
C0975-092-1250	24.77	2.34	31.75	19.61	13.34	99.24	8.17
C0975-092-1500	24.77	2.34	38.10	23.11	15.09	99.24	6.62
C0975-092-2000	24.77	2.34	50.80	30.12	18.59	99.24	4.80
C0975-092-3000	24.77	2.34	76.20	44.12	25.63	99.24	3.10
C0975-092-3500	24.77	2.34	88.90	51.13	29.13	99.24	2.63
C0975-092-4000	24.77	2.34	101.60	58.14	32.66	99.24	2.28
C0975-096-1000	24.77	2.44	25.40	16.48	12.22	111.69	12.51
C0975-096-1250	24.77	2.44	31.75	20.07	14.12	111.69	9.56
C0975-096-1500	24.77	2.44	38.10	23.65	16.03	111.69	7.74
C0975-096-2000	24.77	2.44	50.80	30.84	19.81	111.69	5.58
C0975-096-2500	24.77	2.44	63.50	38.02	23.62	111.69	4.38
C0975-096-3000	24.77	2.44	76.20	45.19	27.41	111.69	3.61
C0975-096-3500	24.77	2.44	88.90	52.37	31.19	111.69	3.06
C0975-105-1000	24.77	2.67	25.40	17.30	13.67	143.19	17.68
C0975-105-1500	24.77	2.67	38.10	24.87	18.11	143.19	10.82
C0975-105-2000	24.77	2.67	50.80	32.46	22.56	143.19	7.81
C0975-105-2500	24.77	2.67	63.50	40.03	26.97	143.19	6.09
C0975-105-3000	24.77	2.67	76.20	47.60	31.42	143.19	5.01

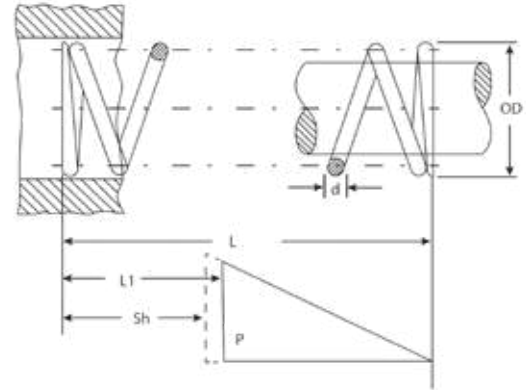


SPEC compression springs provide design engineers, draughtsmen, production and maintenance departments with precision-engineered springs in an economical and time saving way.

The SPEC service saves time and therefore money as design work and calculations are no longer required.

- Music wire ex-stock
- Stainless available upon request

Hales Australia is the official distributor for the SPEC Spring Range.



Product Code	Outside Dia. (OD)	Wire Dia (d).	Free Length (L) Approx.	Load Length (L1)	Solid Height (Sh) Approx.	Load (P) at L1	Spring Rate (R)
	mm	mm	mm	mm	mm	N	N/mm
C0975-105-3500	24.77	2.67	88.90	55.19	35.84	143.19	4.25
C0975-105-4000	24.77	2.67	101.60	62.76	40.28	143.19	3.69
C0975-112-1500	24.77	2.85	38.10	25.81	19.71	171.17	13.91
C0975-112-2000	24.77	2.85	50.80	33.71	24.64	171.17	9.99
C0975-112-2500	24.77	2.85	63.50	41.58	29.57	171.17	7.81
C0975-112-3000	24.77	2.85	76.20	49.45	34.49	171.17	6.41
C0975-112-3500	24.77	2.85	88.90	57.35	39.45	171.17	5.43
C0975-125-1250	24.77	3.18	31.75	23.24	19.61	231.49	27.20
C0975-125-1500	24.77	3.18	38.10	27.46	22.53	231.49	21.75
C0975-125-2000	24.77	3.18	50.80	35.92	28.37	231.49	15.54
C0975-125-2500	24.77	3.18	63.50	44.35	34.21	231.49	12.09
C0975-125-3000	24.77	3.18	76.20	52.81	40.06	231.49	9.89
C0975-125-3500	24.77	3.18	88.90	61.24	45.90	231.49	8.37
C0975-125-4000	24.77	3.18	101.60	69.70	51.74	231.49	7.25
C0975-135-4000	24.77	3.43	101.60	73.53	55.96	286.73	10.20
C1225-096-1500	31.12	2.44	38.10	21.62	12.75	89.85	5.44
C1225-096-2000	31.12	2.44	50.80	28.02	15.29	89.85	3.94
C1225-096-2500	31.12	2.44	63.50	34.42	17.83	89.85	3.08
C1225-096-3000	31.12	2.44	76.20	40.82	20.37	89.85	2.54
C1225-096-3500	31.12	2.44	88.90	47.22	22.91	89.85	2.15
C1225-096-4000	31.12	2.44	101.60	53.62	25.45	89.85	1.87
C1225-096-4500	31.12	2.44	114.30	60.02	27.99	89.85	1.66
C1225-096-5000	31.12	2.44	127.00	66.42	30.53	89.85	1.49
C1225-112-1000	31.12	2.85	25.40	16.46	12.40	138.03	15.44
C1225-112-1500	31.12	2.85	38.10	23.39	15.82	138.03	9.38
C1225-112-2000	31.12	2.85	50.80	30.35	19.23	138.03	6.74
C1225-112-2500	31.12	2.85	63.50	37.29	22.63	138.03	5.27
C1225-112-3000	31.12	2.85	76.20	44.22	26.06	138.03	4.31
C1225-112-3500	31.12	2.85	88.90	51.16	29.46	138.03	3.66
C1225-112-4000	31.12	2.85	101.60	58.12	32.87	138.03	3.17
C1225-125-1250	31.12	3.18	31.75	21.16	16.23	187.14	17.64
C1225-125-1500	31.12	3.18	38.10	24.84	18.31	187.14	14.11
C1225-125-2000	31.12	3.18	50.80	32.26	22.48	187.14	10.08
C1225-125-2500	31.12	3.18	63.50	39.65	26.62	187.14	7.84
C1225-125-3000	31.12	3.18	76.20	47.04	30.78	187.14	6.42
C1225-125-4000	31.12	3.18	101.60	61.85	39.09	187.14	4.71
C1225-125-5000	31.12	3.18	127.00	76.66	47.37	187.14	3.71
C1225-135-1500	31.12	3.43	38.10	25.93	20.19	231.44	19.02
C1225-135-2000	31.12	3.43	50.80	33.71	24.94	231.44	13.53
C1225-135-3000	31.12	3.43	76.20	49.23	34.39	231.44	8.58
C1225-135-3500	31.12	3.43	88.90	56.97	39.12	231.44	7.25

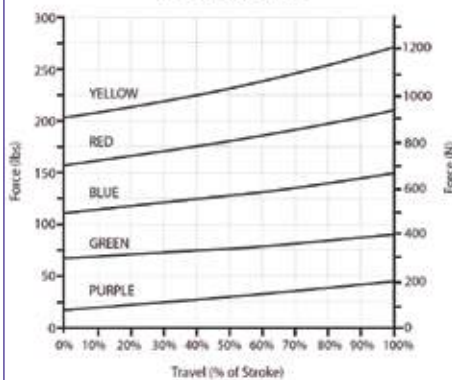
Product Code	Outside Dia. (OD)	Wire Dia (d).	Free Length (L) Approx.	Load Length (L1)	Solid Height (Sh) Approx.	Load (P) at L1	Spring Rate (R)
	mm	mm	mm	mm	mm	N	N/mm
C1225-148-1500	31.12	3.76	38.10	27.31	22.56	298.03	27.58
C1225-148-2000	31.12	3.76	50.80	35.51	28.04	298.03	19.50
C1225-148-3000	31.12	3.76	76.20	51.94	38.96	298.03	12.29
C1225-148-3500	31.12	3.76	88.90	60.17	44.42	298.03	10.36
C1225-148-4000	31.12	3.76	101.60	68.38	49.91	298.03	8.96
C1225-148-4500	31.12	3.76	114.30	76.61	55.37	298.03	7.89
C1225-148-5000	31.12	3.76	127.00	84.81	60.83	298.03	7.05
C1460-112-2000	37.08	2.85	50.80	28.32	15.98	116.68	5.18
C1460-112-3000	37.08	2.85	76.20	41.07	20.96	116.68	3.33
C1460-125-1500	37.08	3.18	38.10	23.19	15.65	158.40	10.62
C1460-125-2000	37.08	3.18	50.80	29.95	18.75	158.40	7.60
C1460-125-3000	37.08	3.18	76.20	43.41	24.92	158.40	4.83
C1460-125-4000	37.08	3.18	101.60	56.90	31.09	158.40	3.54
C1460-135-2000	37.08	3.43	50.80	31.19	20.90	196.12	9.99
C1460-135-3000	37.08	3.43	76.20	45.26	28.02	196.12	6.34
C1460-135-4000	37.08	3.43	101.60	59.33	35.38	196.12	4.64
C1460-148-2000	37.08	3.76	50.80	32.82	23.70	252.93	14.05
C1460-148-3000	37.08	3.76	76.20	47.68	32.08	252.93	8.86
C1460-148-4000	37.08	3.76	101.60	62.53	40.46	252.93	6.48
C1460-162-2000	37.08	4.12	50.80	34.54	26.64	324.45	19.95
C1460-162-3000	37.08	4.12	76.20	50.24	36.40	324.45	12.50
C1460-162-4000	37.08	4.12	101.60	65.94	46.15	324.45	9.10
C1460-162-5000	37.08	4.12	127.00	81.64	55.91	324.45	7.14
C1687-135-2000	42.85	3.43	50.80	29.49	18.14	170.81	8.02
C1687-135-3000	42.85	3.43	76.20	42.57	23.67	170.81	5.08
C1687-135-4000	42.85	3.43	101.60	55.65	29.21	170.81	3.71
C1687-135-5000	42.85	3.43	127.00	68.73	34.75	170.81	2.92
C1687-148-2000	42.85	3.76	50.80	30.94	20.62	220.50	11.10
C1687-148-3000	42.85	3.76	76.20	44.65	27.20	220.50	6.98
C1687-148-4000	42.85	3.76	101.60	58.39	33.81	220.50	5.09
C1687-148-5000	42.85	3.76	127.00	72.14	40.39	220.50	4.01
C1687-162-2000	42.85	4.12	50.80	32.49	23.32	283.13	15.44
C1687-162-3000	42.85	4.12	76.20	46.94	31.06	283.13	9.68
C1687-162-4000	42.85	4.12	101.60	61.42	38.84	283.13	7.04
C1687-162-5000	42.85	4.12	127.00	75.87	46.61	283.13	5.53
C1687-177-2000	42.85	4.50	50.80	34.11	26.14	361.46	21.65
C1687-177-3000	42.85	4.50	76.20	49.38	35.18	361.46	13.46
C1687-177-4000	42.85	4.50	101.60	64.64	44.22	361.46	9.77
C1687-177-5000	42.85	4.50	127.00	79.91	53.29	361.46	7.67
C1687-192-2000	42.85	4.88	50.80	35.69	28.88	451.94	29.91
C1687-192-3000	42.85	4.88	76.20	51.74	39.19	451.94	18.48
C1687-192-4000	42.85	4.88	101.60	67.79	49.53	451.94	13.37
C1687-192-5000	42.85	4.88	127.00	83.87	59.84	451.94	10.47
C1937-148-3000	49.20	3.76	76.20	42.27	23.34	193.14	5.69
C1937-148-4000	49.20	3.76	101.60	55.12	28.50	193.14	4.15
C1937-148-5000	49.20	3.76	127.00	67.95	33.63	193.14	3.27
C1937-162-2000	49.20	4.12	50.80	30.78	20.57	248.21	12.39
C1937-162-3000	49.20	4.12	76.20	44.25	26.72	248.21	7.75
C1937-162-4000	49.20	4.12	101.60	57.71	32.84	248.21	5.65
C1937-162-5000	49.20	4.12	127.00	71.15	38.99	248.21	4.45
C1937-177-4000	49.20	4.50	101.60	60.53	37.62	317.11	7.72
C1937-177-5000	49.20	4.50	127.00	74.68	44.86	317.11	6.06
C1937-177-6000	49.20	4.50	152.40	88.82	52.10	317.11	4.99
C1937-207-4500	49.20	5.26	114.30	73.99	51.92	488.10	12.09
C1937-207-5000	49.20	5.26	127.00	81.76	56.64	488.10	10.78
C1937-207-5500	49.20	5.26	139.70	89.51	61.39	488.10	9.71
C1937-207-6000	49.20	5.26	152.40	97.28	66.14	488.10	8.86



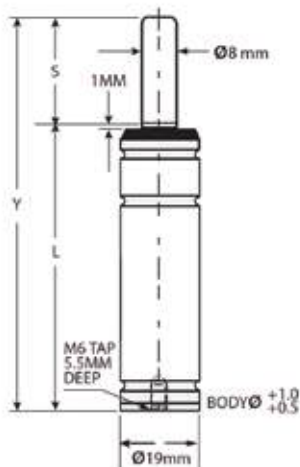
Product Specifications

Pressure Medium	Nitrogen Gas
Charging Pressure Range	Max.: 180 bar / 2610 psi Min.: 18 bar / 260 psi
Force Increase By Temperature	±0.3 % / °C
Max. Charging Pressure (bar at 20°C)	180
Min. Operating Temperature	0°C
Max. Operating Temperature	80°C
Max. Stroke / Minute	100-150 at 20°C
Max. Piston Rod Velocity	96 m/min.
Max. Utilised Stroke	100%
Repair Kit	Not Repairable
Inlet Valve	4018112

T2-90 Force Chart



T2-90



T2-90 Contact Force

Colour	Charge Pressure		Contact Force	
	bar	psi	N	lbs
Yellow	180	2610	905	203
Red	140	2030	704	158
Blue	100	1450	503	113
Green	60	870	302	68
Purple	18	260	89	20
Black*	18-180	260-2610	89-905	20-203

T2-90 Dimensional Information

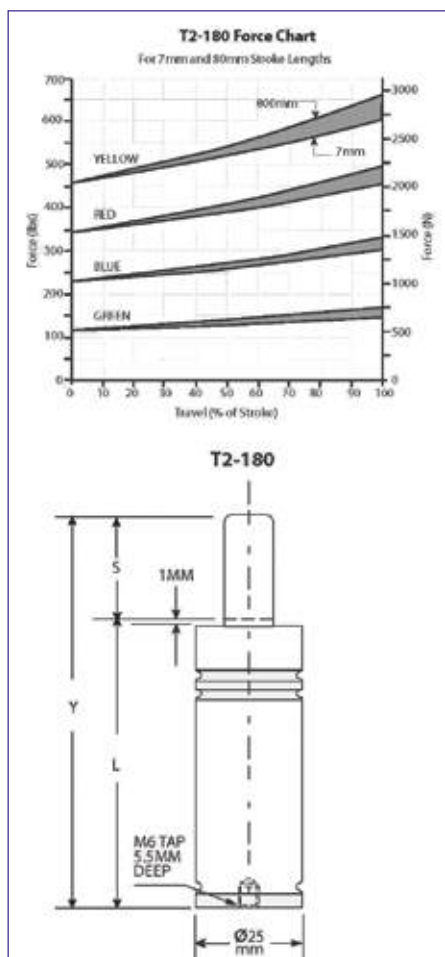
Product Code	Stroke Lengths		Y		L	
	mm	inch	mm	inch	mm	inch
T2-90X7	7	0.28	56	2.20	49	1.93
T2-90X10	10	0.39	62	2.44	52	2.05
T2-90X15	15	0.59	72	2.83	57	2.24
T2-90X25	25	0.98	92	3.62	67	2.64
T2-90X38	38.1	1.50	118.2	4.65	80.1	3.15
T2-90X50	50	1.97	142	5.59	92	3.62
T2-90X63	63.5	2.50	169	6.65	105.5	4.15
T2-90X80	80	3.15	205	8.07	125	4.92
T2-90X100	100	3.94	245	9.65	145	5.71
T2-90X125	125	4.92	295	11.61	170	6.69

* Custom Pressure: Please specify charging pressure or contact force required.



Product Specifications

Pressure Medium	Nitrogen Gas
Charging Pressure Range	Max.: 180 bar / 2610 psi Min.: 25 bar / 360 psi
Force Increase By Temperature	$\pm 0.3\% / ^\circ\text{C}$
Max. Charging Pressure (bar at 20°C)	180
Min. Operating Temperature	0°C
Max. Operating Temperature	80°C
Max. Stroke / Minute	80-100 at 20°C
Max. Piston Rod Velocity	96 m/min.
Max. Utilised Stroke	100%
Repair Kit	T2SK2-180
Inlet Valve	4018112



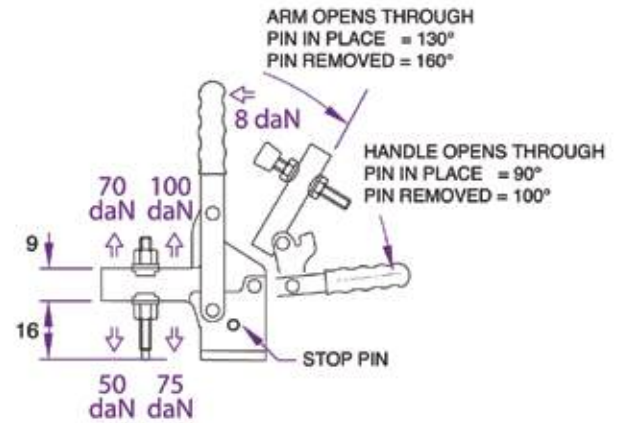
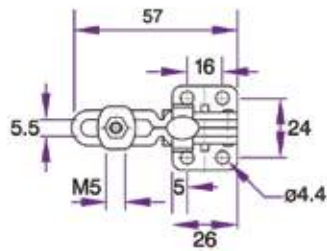
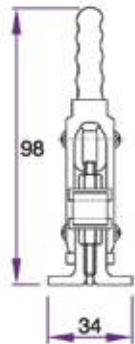
T2-180 Contact Force

Colour	Charge Pressure		Contact Force	
	bar	psi	N	lbs
Yellow	180	2610	2036	458
Red	135	1960	1527	343
Blue	90	1305	1018	229
Green	45	655	509	114
Black*	25-180	363-2610	280-2036	63-458

T2-180 Dimensional Information

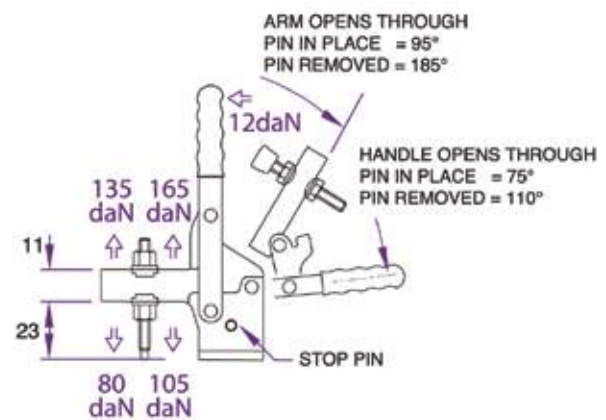
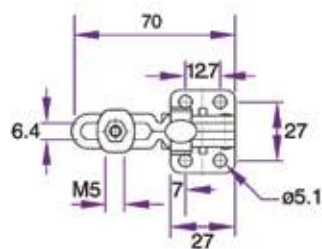
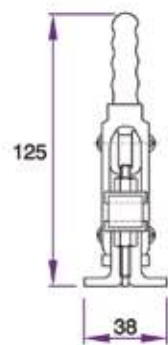
Product Code	Stroke Lengths		Y		L	
	mm	inch	mm	inch	mm	inch
T2-180X7	7	0.28	56	2.20	49	1.93
T2-180X10	10	0.39	62	2.44	52	2.05
T2-180X12.7	12.7	0.50	67.4	2.65	54.7	2.15
T2-180X15	15	0.59	72	2.83	57	2.24
T2-180X16	16	0.63	74	2.91	58	2.28
T2-180X25	25	0.98	92	3.62	67	2.64
T2-180X38	38.1	1.50	118.2	4.65	80.1	3.15
T2-180X50	50	1.97	142	5.59	92	3.62
T2-180X63	63.5	2.50	172	6.65	108.5	4.15
T2-180X75	75	2.95	195	7.68	120	4.72
T2-180X80	80	3.15	205	8.07	125	4.92
T2-180X100	100	3.94	245	9.65	145	5.71
T2-180X125	125	4.92	295	11.61	170	6.69

* Custom Pressure: Please specify charging pressure or contact force required.

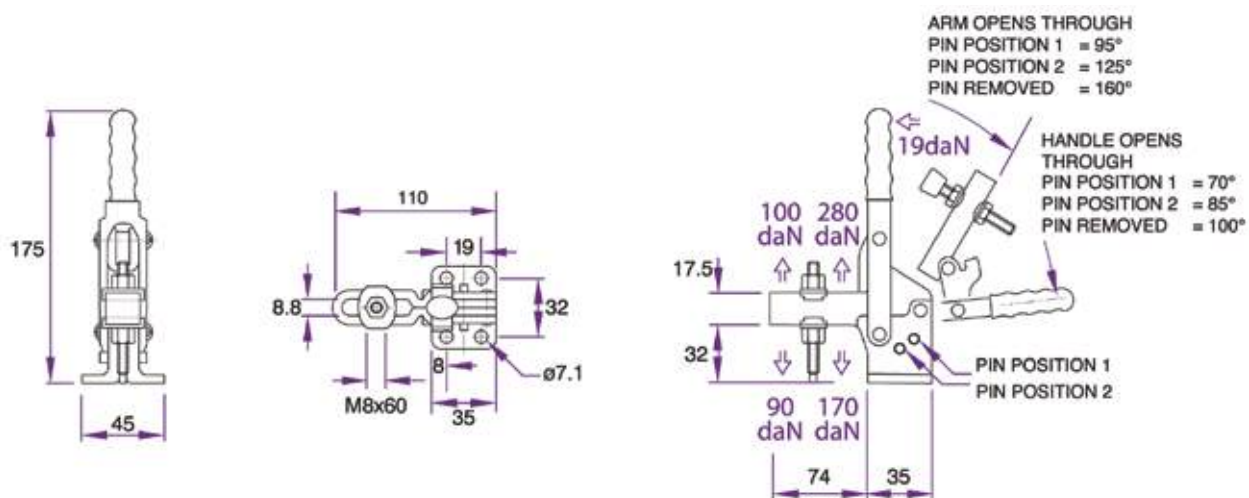


Product Code	Holding Force	Weight	Pin Opening Angle - Arm		Pin Opening Angle Handle	
			Pin in Place	Pin Removed	Pin in Place	Pin Removed
V75/2B	75 daN	.05 kg	130°	160°	90°	100°

Vertical Toggle Clamp - V150

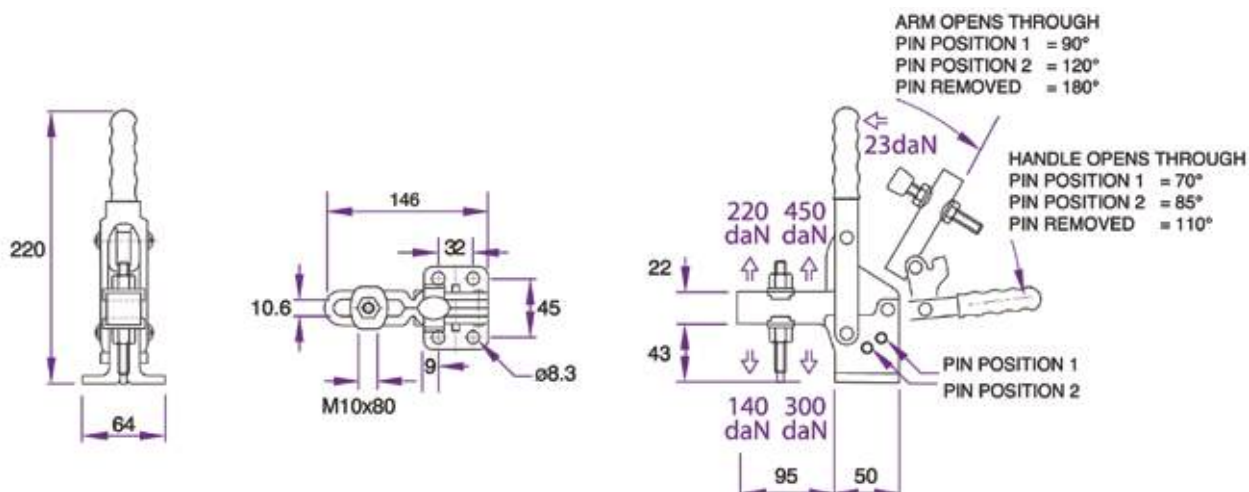


Product Code	Holding Force	Weight	Pin Opening Angle - Arm		Pin Opening Angle Handle	
			Pin in Place	Pin Removed	Pin in Place	Pin Removed
V150/2B	150 daN	.15 kg	95°	185°	75°	110°

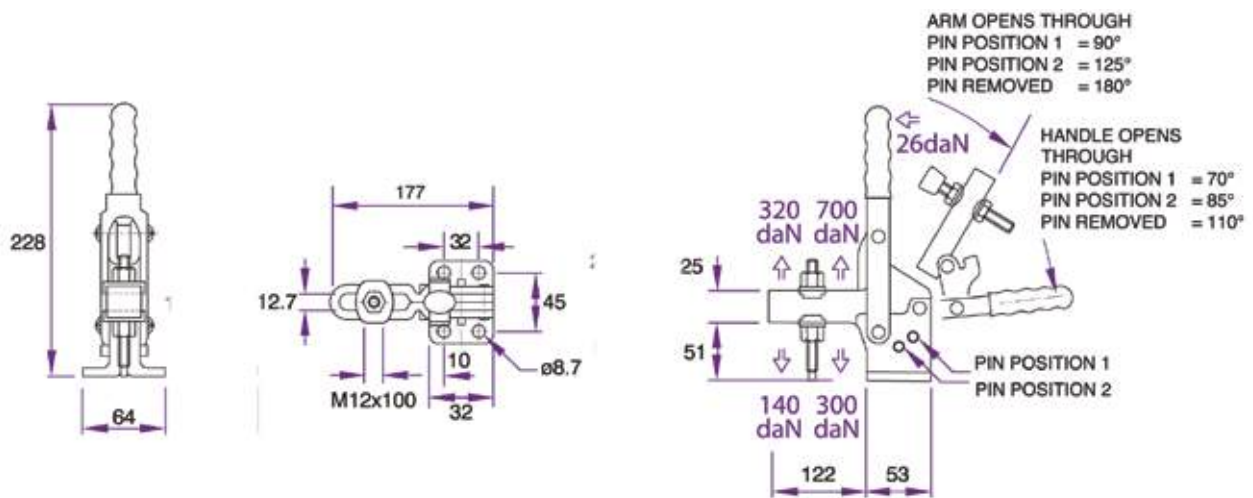


Product Code	Holding Force	Weight	Pin Opening Angle - Arm			Pin Opening Angle Handle		
			Pin in Place	Pin Removed	Removed	Pin in Place	Pin Removed	Removed
V250/2B	250 daN	.38 kg	95°	125°	160°	70°	85°	100°

Vertical Toggle Clamp - V350

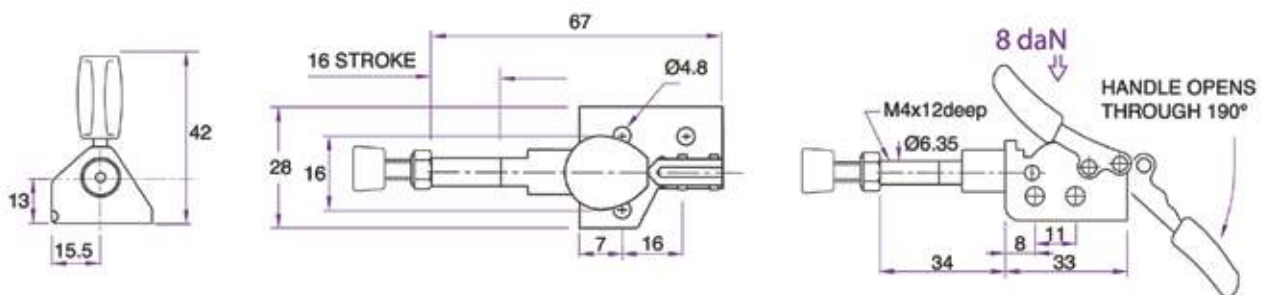


Product Code	Holding Force	Weight	Pin Opening Angle - Arm			Pin Opening Angle Handle		
			Pin in Place	Pin Removed	Removed	Pin in Place	Pin Removed	Removed
V350/2B	350 daN	.80 kg	90°	120°	180°	70°	80°	110°

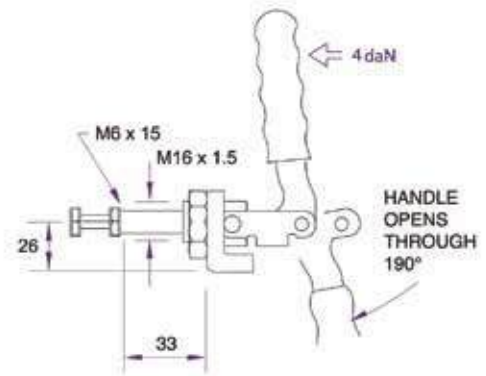
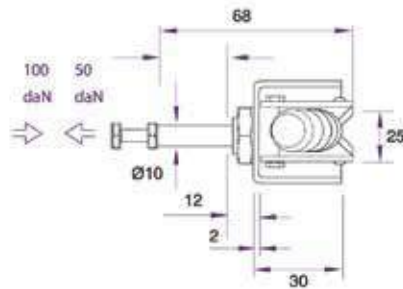
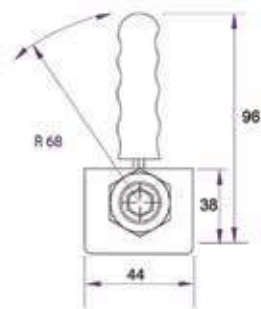


Product Code	Holding Force	Weight	Pin Opening Angle - Arm			Pin Opening Angle Handle		
			Pin in Place	Pin Removed	Removed	Pin in Place	Pin Removed	Removed
V450/2B	450 daN	1.35 kg	90°	125°	180°	70°	85°	110°

Push-Pull Clamp - P50

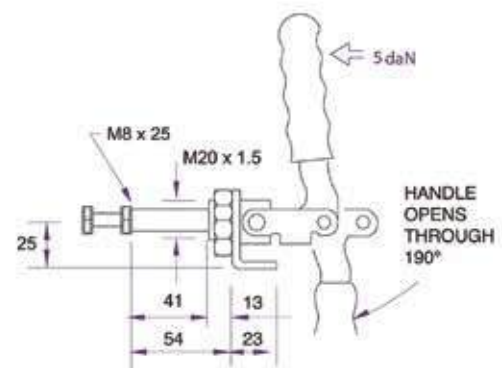
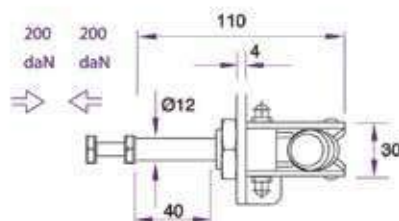
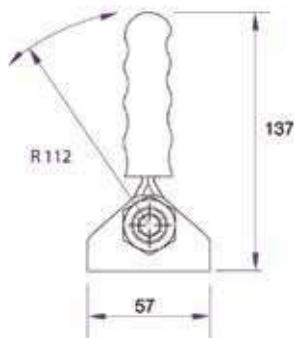


Product Code	Holding Force	Weight	Handle Opening Angle
P50	50 daN	0.05 kg	190°

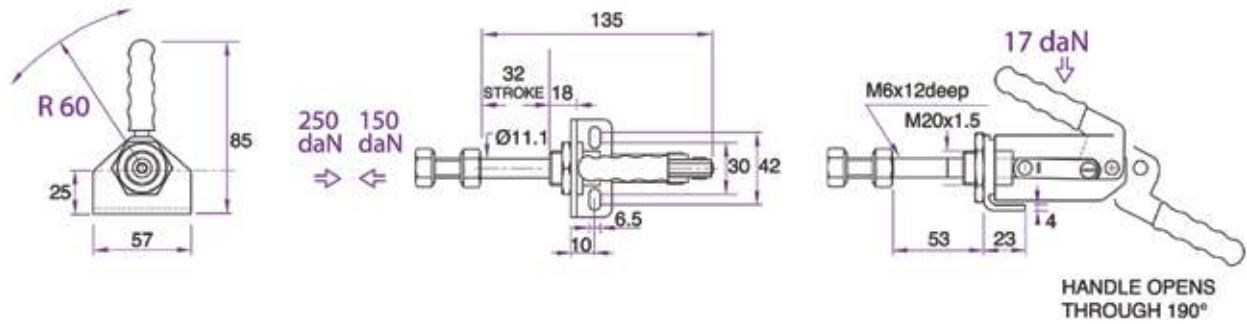


Product Code	Holding Force	Weight	Handle Opening Angle
P100	100 daN	0.15 kg	190°

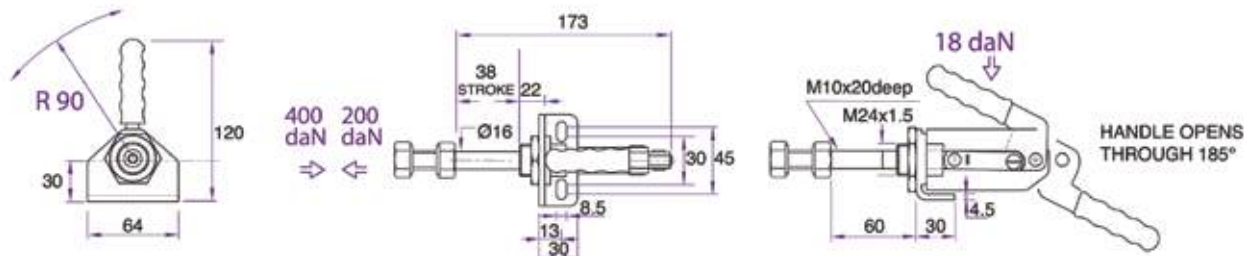
Push-Pull Clamp - P200



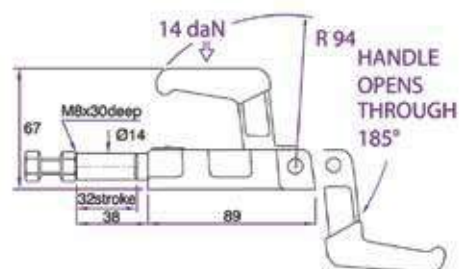
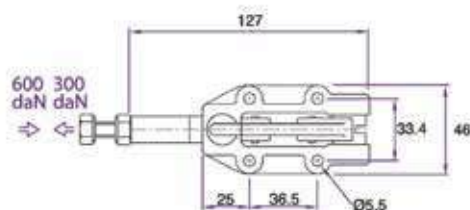
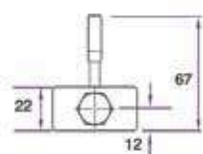
Product Code	Holding Force	Weight	Handle Opening Angle
P200	200 daN	0.35 kg	180°



Product Code	Holding Force	Weight	Handle Opening Angle
P250	250 daN	0.30 kg	190°

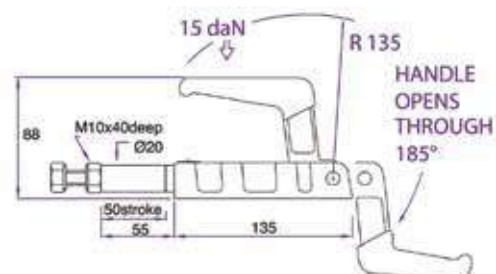
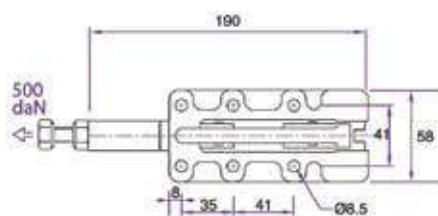
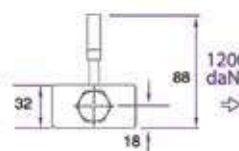


Product Code	Holding Force	Weight	Handle Opening Angle
P450	450 daN	0.75 kg	185°

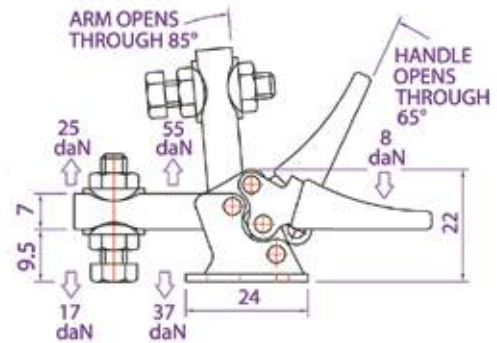
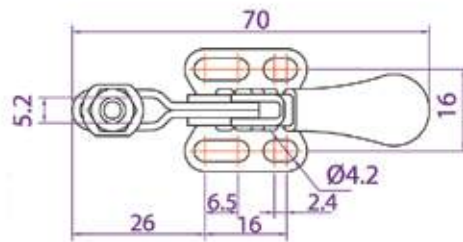
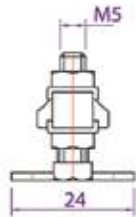


Product Code	Holding Force	Weight	Handle Opening Angle
P600	600 daN	0.45 kg	185°

Push-Pull Clamp - P1200

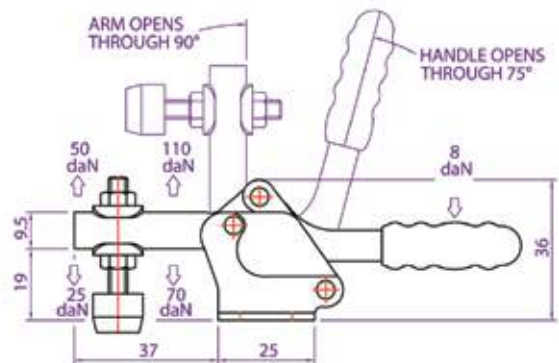
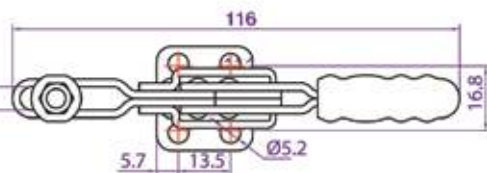
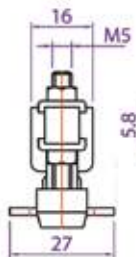


Product Code	Holding Force	Weight	Handle Opening Angle
P1200	1200 daN	1.35 kg	185°

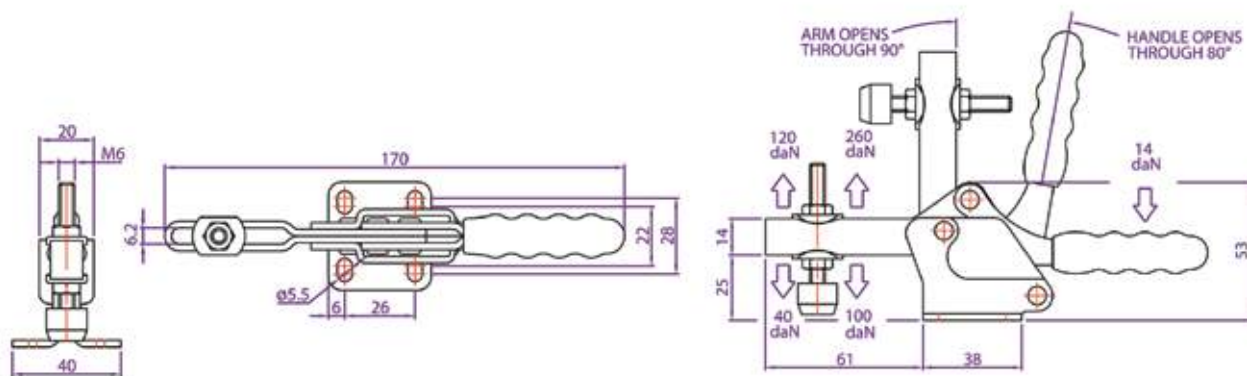


Product Code	Holding Force	Weight	Arm Opening Angle	Handle Opening Angle
H50/2B	50 daN	0.036 kg	85°	65°

Horizontal Toggle Clamp -H75

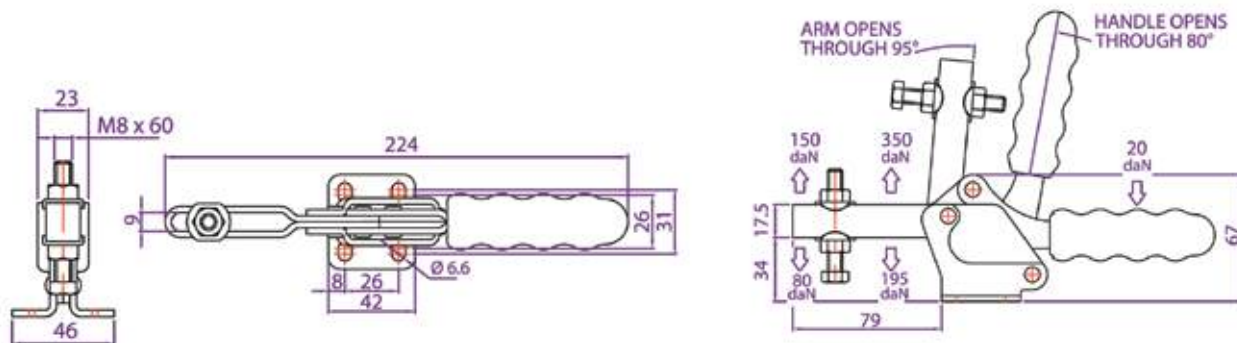


Product Code	Holding Force	Weight	Arm Opening Angle	Handle Opening Angle
H75/2B	75 daN	0.10 kg	90°	75°

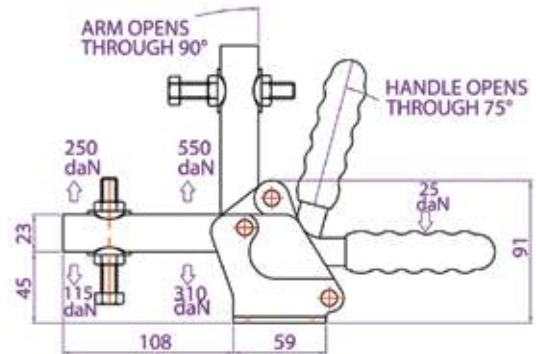
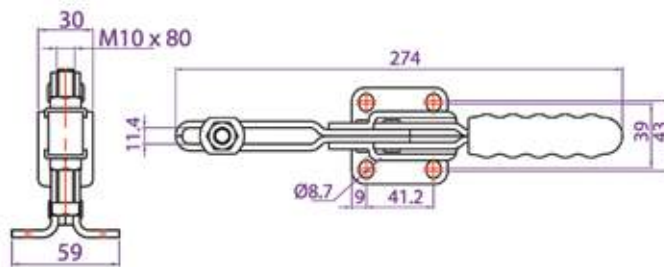


Product Code	Holding Force	Weight	Arm Opening Angle	Handle Opening Angle
H150/2B	150 daN	0.25 kg	90°	80°

Horizontal Toggle Clamp -H250

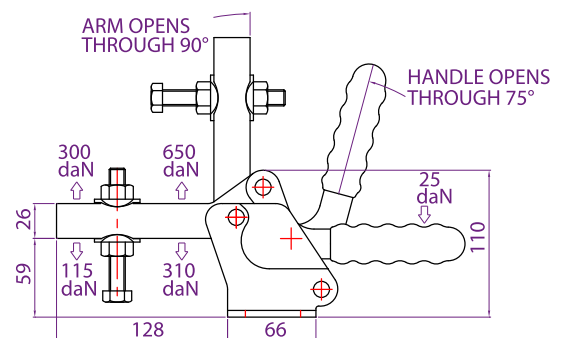
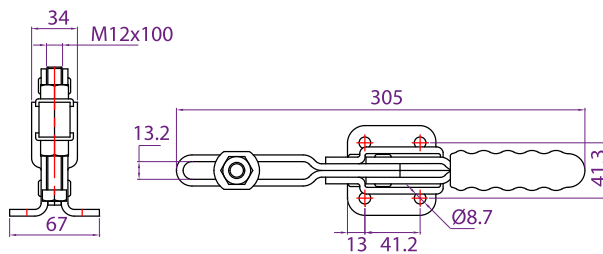


Product Code	Holding Force	Weight	Arm Opening Angle	Handle Opening Angle
H250/2B	250 daN	0.50 kg	95°	80°

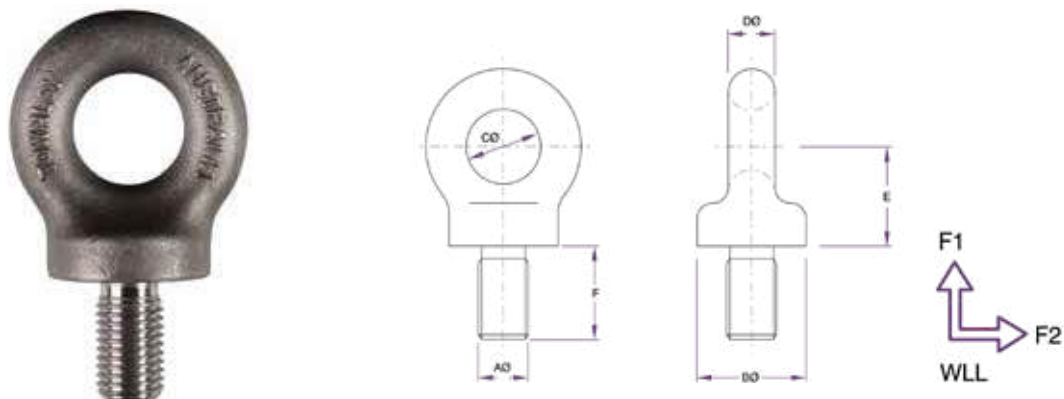


Product Code	Holding Force	Weight	Arm Opening Angle	Handle Opening Angle
H350/2B	350 daN	0.90 kg	90°	75°

Horizontal Toggle Clamp -H450



Product Code	Holding Force	Weight	Arm Opening Angle	Handle Opening Angle
H450/2B	450 daN	1.60 kg	90°	75°



Manufactured using only heat certified Australian Steel

WLL (Working Load Limit)

Each eye bolt is clearly stamped with the permitted F2 WLL.

F2 WLL - indicates safe use for non-axial lifts.

F1 WLL - indicates loads which are in line with the axis of the threaded end of the eye bolt.

F1 WLL allows up to four (4) times higher lifting capacity whilst maintaining a 6:1 design factor of safety

METRIC									
Product Code	AØ	WLL F1 t	WLL F2 t	BØ	CØ	DØ	E	F	Net Weight (kg)
EYE10	M10	0.25t	0.06t	21	14	9	19	17	0.06
EYE12	M12	0.4t	0.1t	28	18	11	24	21	0.15
EYE16	M16	0.8t	0.2t	35	23	14	31	27	0.28
EYE20	M20	1.6t	0.4t	42	30	16	35	38	0.46
EYE24	M24	2.5t	0.62t	57	38	22	48	42	1.10
EYE30	M30	4t	1t	71	49	27	65	52	2.10
EYE36	M36	6.3t	1.57t	87	53	35	73	64	3.70
EYE42	M42	8t	2t	102	66	40	90	76	6.30

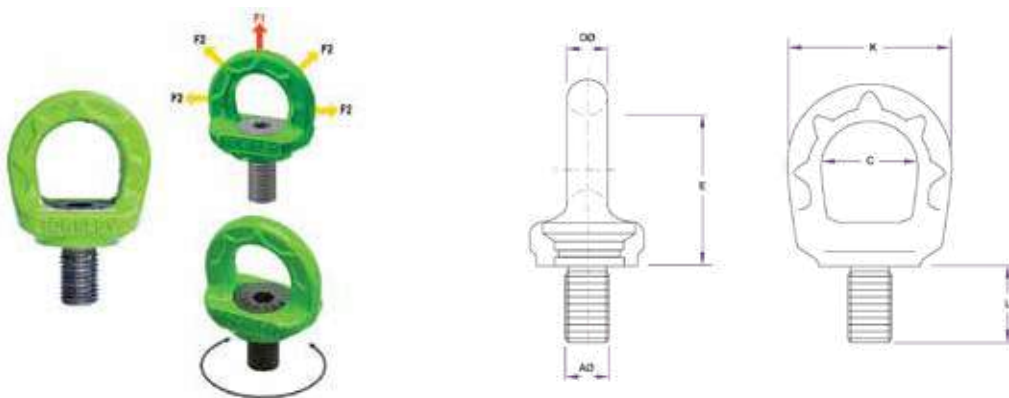
IMPERIAL									
Product Code	AØ	WLL F1 t	WLL F2 t	BØ	CØ	DØ	E	F	Net Weight (kg)
EYE124	3/8"	0.25	0.06	21	14	9	19	17	0.06
EYE132	1/2"	0.4	0.1	28	18	11	24	21	0.15
EYE140	5/8"	0.8	0.2	35	23	14	31	27	0.28
EYE148	3/4"	1.6	0.4	42	30	16	35	38	0.46
EYE156	7/8"	2	0.5	50	32	20	41	41	0.85
EYE164	1"	2.5	0.62	57	38	22	48	42	1.10



- Forged from high tensile tempered alloy steel
- Electromagnetic crack detection to AS1171
- Hi-visibility powder coating to AS4506

WLL (Working Load Limit)

- Each eye bolt is clearly stamped with the permitted F2 WLL.
- F2 WLL - indicates safe use for non-axial lifts.
- F1 WLL - indicates loads which are in line with the axis of the threaded end of the eye bolt.
- F1 WLL allows up to four (4) times higher lifting capacity whilst maintaining a 6:1 design factor of safety
- More sizes available on request

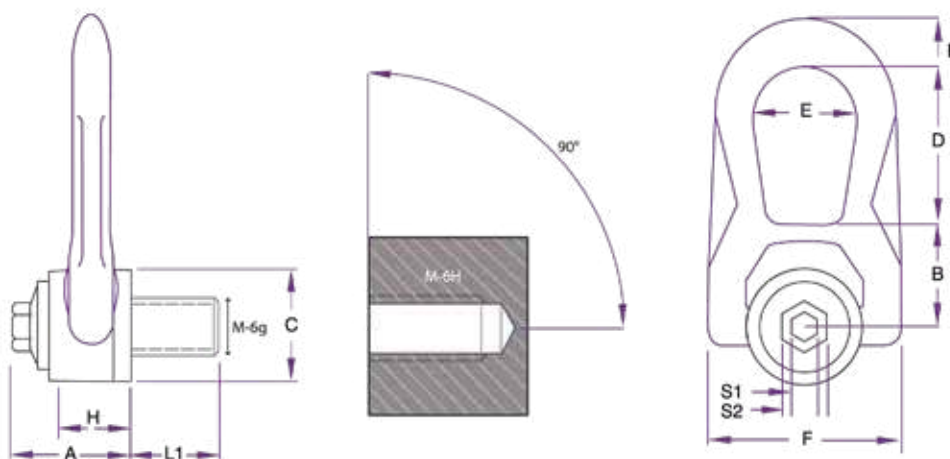


METRIC										
Product Code	Aø	SF 5:1 WLL F1 t	SF 4:1 WLL F2 t	C	D	E	K	L	Torque (Nm)	Net Weight (kg)
EYE10-G10	M10	1t	0.4t	30	11	43	55	15	14	0.23
EYE12-G10	M12	2t	0.75t	30	11	43	55	18	22	0.23
EYE16-G10	M16	4t	1.5t	34	14	49	64	24	60	0.38
EYE20-G10	M20	6t	2.3t	39	16	56	69	30	105	0.60
EYE24-G10	M24	8t	3.2t	50	19	71	86	36	182	1.10



European Quality

- Higher working load limits
- Full double swivel action giving greater flexibility and functionality
- Customisation of thread types and bolt lengths available in Australia
- Easier to use in more applications
- Eliminates the issues of offset loading with other swivel lifting points
- More sizes available on request

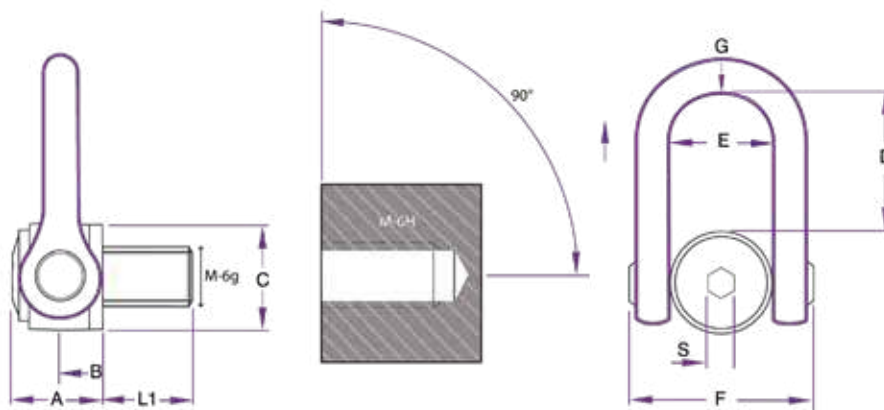


METRIC																
Product Code	Dia. Ø	SF 5:1 WLL F1 t	SF 4:1 WLL F2 t	Standard L1	S1	S2	A	B	C	D	E	F	G	H	Torque (Nm)	Net Weight (kg)
EYE08-DSR	M8 (x1.25)	0.40	0.50	15	8	16	33	30	30	38	27	14	53	9.5	6	0.3
EYE10-DSR	M10 (x1.5)	0.70	0.90	18	8	16	33	30	30	38	27	14	53	9.5	10	0.3
EYE12-DSR	M12 (x1.75)	1.05	1.30	21	8	16	33	30	30	38	27	14	53	9.5	15	0.3
EYE16-DSR	M16 (x2)	2.00	2.30	27	8	20	45	40	45	53	38	17	76	13	50	0.9
EYE20-DSR	M20 (x2.5)	2.50	2.50	30	8	20	45	40	45	53	38	17	76	13	100	0.9
EYE22-DSR	M22 (x2.5)	3.50	4.50	33	14	24	62	55	60	83	55	25	115	19	120	2.6
EYE24-DSR	M24 (x3)	4.40	5.50	36	14	24	62	55	60	83	55	25	115	19	160	2.6
EYE27-DSR	M27 (x3)	5.70	6.00	40	14	24	62	55	60	83	55	25	115	19	200	2.7
EYE30-DSR	M30 (x3.5)	6.00	6.30	45	14	24	62	55	60	83	55	25	115	19	250	2.7



European Quality

- Higher working load limits
- Full double swivel action giving greater flexibility and functionality
- Customisation of thread types and bolt lengths available in Australia
- Easier to use in more applications
- Eliminates the issues of offset loading with other swivel lifting points
- More sizes available on request



METRIC														
Product Code	Dia. Ø	SF 5:1 WLL F1 t	SF 4:1 WLL F2 t	Standard L1	S	A	B	C	D	E	F	G	Torque (Nm)	Net Weight (kg)
EYE33-DSS	M33 (x3.5)	8.50	10.50	50	19	61	31	70	98	73	149	33	250	5.5
EYE36-DSS	M36 (x4)	11.00	12.00	54	19	61	31	70	98	73	149	33	320	5.5
EYE42-DSS	M42 (x4.5)	13.00	15.00	63	19	61	31	70	98	73	149	33	400	5.8
EYE48-DSS	M48 (x5)	17.00	20.00	68	19	79	38	90	123	91	182	45	600	11.0
EYE64-DSS	M64 (x6)	25.00	32.10	90	19	79	38	95	123	91	182	45	600	12.2



Product Code	Description
MIT-500-752-20	Mitutoyo 150/6" Coolant Proof Digital Calliper
MIT-500-753-20	Mitutoyo 200/8" Coolant Proof Digital Calliper
MIT-SR44	Sr44 Replacement Battery

Outside Micrometer



Product Code	Description
MIT-103-137	Mitutoyo 0 - 25mm Outside Micrometer
MIT-103-138	Mitutoyo 25 - 50mm Outside Micrometer

Dial Indicator Kit



Kit includes:

- Lever indicator (513 - 404E)
- Swivel clamp (for dia. 4mm stem, dia. 8mm stem and dovetail mounting)
- Holding Bar (9 x 9 x 100mm)
- Knurled clamp ring nut,
- Stem dia. 4mm and stem dia. 8mm

Product Code	Description
MIT-513-404-10T	Mitutoyo Dial Indicator Kit



Mitutoyo's Magnetic Stands accept all dial indicators and dial test indicators. Standard or with fine adjustment.

The On-Off switch offers instant mounting and dismounting without any adverse effect to the indicators or work piece surface.

Product Code	Description
MIT-7010S-10	Mitutoyo Magnetic Stand - Plain
MIT-7011S-10	Mitutoyo Magnetic Stand - Fine Adjustment

Edge Finder



Used in a milling machine to find the work piece edge; all working surfaces are hardened and ground.

Product Code	Description
MIT-98-321-3	Edge Finder
MIT-98-325-4	Combination Edge & Centre Finder

Toledo Steel Rule



Product Code	Description
T0150	Toledo 150MM / 6" METRIC / IMPERIAL Rule
T0300	Toledo 300MM / 12" METRIC / IMPERIAL Rule
T0600	Toledo 600MM / 24" METRIC / IMPERIAL Rule
T1000	Toledo 1000MM / 36" METRIC / IMPERIAL Rule



Rubber back case

3 rivet end hook

The most consistently accurate, value for money tape measure

Product Code	Description
TAPEMEASURE-8MT	8m Ultimeas measuring tape

Hand Held Refractometer



An industrial fluids testing device that will quickly and accurately measure the concentrate to water ratio of metal working coolants, parts cleaners, chromating solutions and many other types of aqueous based solutions and emulsions.

Product Code	Description
REFRACTOMETER	Hand held refractometer

Work Finisher Ceramic & Throwaway Knives



Small and large Work Finishers offer deburring of hard plastics, without the possibility of cutting your hand.

Product Code	Description
WF620	Small Work Finisher Knife
WF1540	Large Work Finisher Knife
TSK	145mm Long Disposable Fixed Knife Blade



The ultimate for performance and reliability

- Suitable for manual and automatic systems
- Compressor oil suitable for piston-type compressors
- An Australian product made from local and imported products

Product Code	Size
AIRTOOL-OIL-0250	250ml

Bearing Blue



Stuarts Bearing Blue is an oil based paste for indicating high spots on machine bearings & machine tool beds etc.

Product Code	Description
ZBSS	Micrometer Blue 32g tube

Blue Layout Stain



Blue Layout Stain is for marking on hard surfaces such as metal and glass.

The ideal product for tool and die makers, machinists, pattern makers, sheet metal workers and maintenance mechanics.

Product Code	Description
LS1	DY-MARK engineering layout ink - 1 Litre

Designation	Application	up to 3mm	3mm - 6mm	6mm - 10 mm	10mm - 18mm	18mm - 30mm	30mm - 50mm
d9		-20	-30	-40	-50	-65	-80
		-45	-60	-76	-93	-117	-142
f7	Ground Surfaces	-6	-10	-13	-16	-20	-25
		-16	-22	-28	-34	-41	-50
F7	Drill guides-I.D.	+16	+22	+28	+34	+41	+50
		+7	+10	+13	+16	+20	+25
g5		-2	-4	-5	-6	-7	-9
		-6	-9	-11	-14	-16	-20
g6	Ejector Pins	-2	-4	-5	-6	-7	-9
		-8	-12	-14	-17	-20	-25
h4	Guide pins (die sets)	0	0	0	0	0	0
		-3	-4	-4	-5	-6	-7
h5		0	0	0	0	0	0
		-4	-5	-6	-8	-9	-11
h6	Punches D.C. F(pt)	0	0	0	0	0	0
		-6	-8	-9	-11	-13	-16
h7		0	0	0	0	0	0
		-10	-12	-15	-18	-21	-25
h9		0	0	0	0	0	0
		-25	-30	-36	-43	-52	-62
h11		0	0	0	0	0	0
		-60	-75	-90	-110	-210	-250
H5		+4	+5	+6	+8	+9	+11
		0	0	0	0	0	0
H7	Punch guides-I.D. Reamers	+10	+12	+15	+18	+21	+25
		0	0	0	0	0	0
H8	Die inserts or buttons-I.D.(A&B)	+14	+18	+22	+27	+33	+39
		0	0	0	0	0	0
j5		+2	+3	+4	+5	+5	+6
		-2	-2	-2	-3	-4	-5
j6		+4	+6	+7	+8	+9	+11
		-2	-2	-2	-3	-4	-5
j7		+7	+9	+10	+12	+13	+15
		-2	-3	-5	-6	-8	-10
k6	Die inserts O.D(B)	+10	+12	+15	+18		
		+1	+1	+2	+2		
m5		+7	+9	+12	+15	+17	+20
		+2	+4	+6	+7	+8	+9
m6	Punches E,F(shk) Dowels	+9	+12	+15	+18	+21	+25
		+2	+4	+6	+7	+8	+9
n6	Die inserts-O.D.(A) Guide Bushes-O.D.	+13	+16	+19	+23	+28	+32
		+6	+8	+10	+12	+15	+17
p6		+16	+20	+24	+29	+35	+42
		+9	+12	+15	+18	+22	+26
r6		+19	+23	+28	+34	+41	+50
		+12	+15	+19	+23	+28	+34
s5		+18	+24	+29	+36	+44	+54
		+14	+19	+23	+28	+35	+43
s6		+22	+27	+32	+39	+48	+59
		+15	+19	+23	+28	+35	+43



hales[®]

Tooling, Moulding & Industrial Supplies

**GLOBAL STRENGTH
LOCAL KNOWLEDGE**



CONTACT HALES

www.hales.com.au

info@hales.com.au

1300 660 854

VICTORIA

45 Woodlands Drive
Braeside
Victoria 3195
Phone: (03) 8587 1600

NEW SOUTH WALES

Phone: (02) 9791 1011

QUEENSLAND

Phone: (07) 3272 7500

SOUTH AUSTRALIA

Phone: (08) 8297 1722

SINGAPORE

Hales Asia Pte Ltd
2 Ang Mo Kio Street 64
#04-03B
Econ Industrial Building
Singapore 569084
Tel: +65 6754 7077