



**hales<sup>®</sup>**



**2025  
END OF ARM TOOLING**



## QUICK CHANGE

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## PROFILES, CONNECTORS &amp; NUTS

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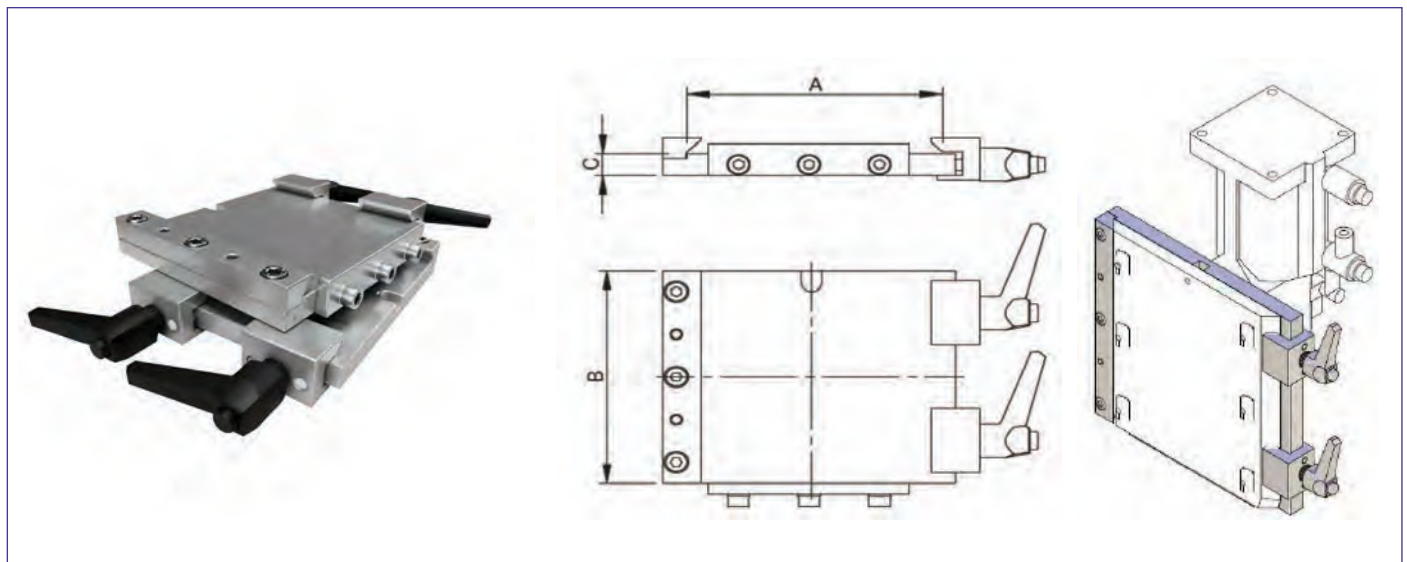
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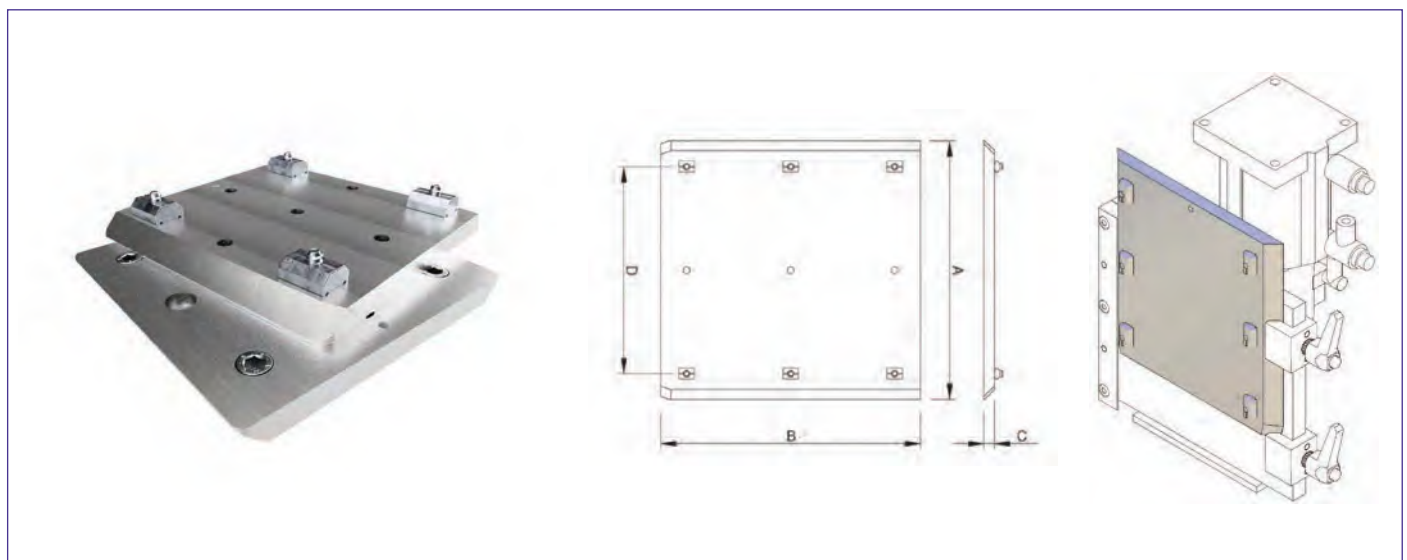




Manual interface between robot and EOAT.  
Works with all profile systems.

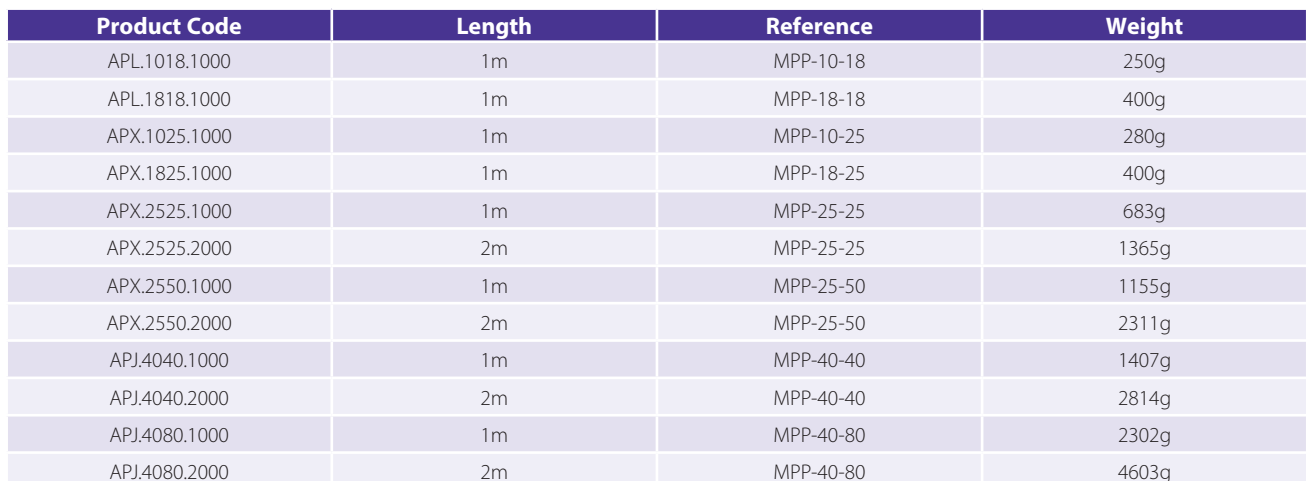
| Product Code  | A   | B   | C  | Max Load | Reference  | Weight |
|---------------|-----|-----|----|----------|------------|--------|
| QC-RSW-60-00  | 60  | 60  | 10 | 5kg      | QC-SSW-60  | 140g   |
| QC-RSW-100-00 | 100 | 100 | 10 | 10kg     | QC-SSW-100 | 495g   |
| QC-RSW-160-00 | 160 | 160 | 10 | 20kg     | QC-SSW-160 | 1136 g |
| QC-RSW-250-00 | 250 | 250 | 10 | 40kg     | QC-SSW-250 | 3072g  |

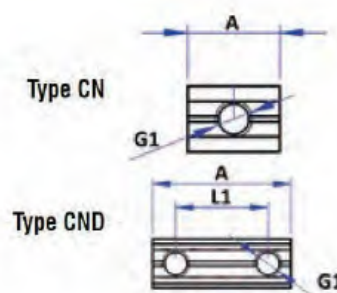
## Quick Change Base Plate



Material: Aluminium.  
Surface: Silver anodized.

| Product Code | A   | B   | C  | D   | Reference     | Weight |
|--------------|-----|-----|----|-----|---------------|--------|
| QC-SSW-60    | 60  | 60  | 8  | 35  | QC-RSW-60-00  | 93g    |
| QC-SSW-100   | 100 | 100 | 8  | 70  | QC-RSW-100-00 | 242g   |
| QC-SSW-160   | 160 | 160 | 10 | 120 | QC-RSW-160-00 | 695g   |
| QC-SSW-250   | 250 | 250 | 10 | 200 | QC-RSW-250-00 | 1641g  |

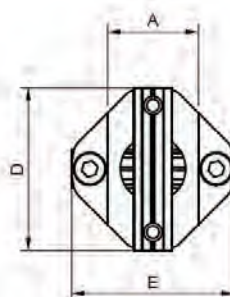




Suitable for L, X and J line of profiles.

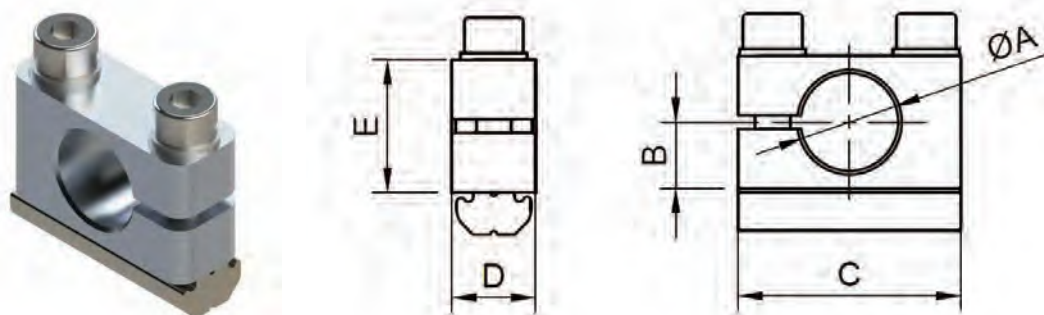
| Product Code | G1 | A  | L1 | Weight |
|--------------|----|----|----|--------|
| CN-M3        | M3 | 15 |    | 6g     |
| CN-M4        | M4 | 15 |    | 6g     |
| CN-M4-16     | M4 | 24 | 16 | 9g     |
| CN-M5        | M5 | 15 |    | 5g     |
| CN-M5-20     | M5 | 30 | 20 | 11g    |
| CN-M6        | M6 | 15 |    | 5g     |
| CN-M6-20     | M6 | 30 | 20 | 11g    |

## Profile Cross Joint Connector



Exact 90° connection of two profiles.  
Highly rigid, connection.  
Allows adjustment of both profiles.

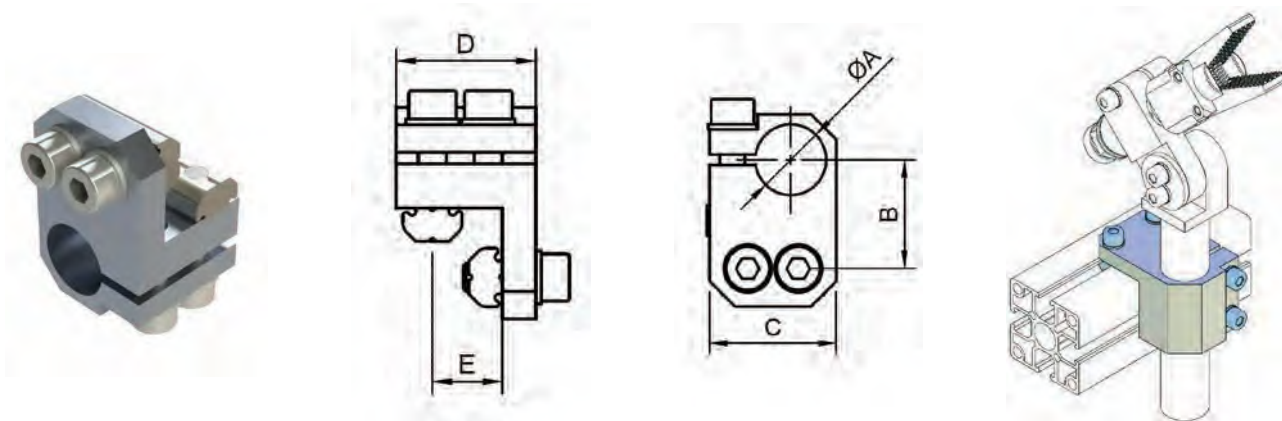
| Product Code | A  | B  | C   | D   | E | Reference | Weight |
|--------------|----|----|-----|-----|---|-----------|--------|
| CC18-18-L    | 18 | 18 | 38  | 38  | 3 | L         | 40g    |
| CC25-18-X    | 25 | 18 | 45  | 45  | 4 | X         | 60g    |
| CC25-25-X    | 25 | 25 | 45  | 45  | 4 | X         | 67g    |
| CC50-25-X    | 50 | 25 | 45  | 70  | 4 | X         | 76g    |
| CC50-50-X    | 50 | 50 | 70  | 70  | 4 | X         | 192g   |
| CC40-25-J    | 40 | 25 | 45  | 60  | 4 | X/J       | 77g    |
| CC40-40-J    | 40 | 40 | 65  | 65  | 4 | J         | 81g    |
| CC80-40-J    | 80 | 40 | 100 | 60  | 4 | J         | 156g   |
| CC80-80-J    | 80 | 80 | 100 | 100 | 4 | J         | 268g   |



Connects tubular components to profiles at 90°.  
Adjustment of components without loss of clamp position.

| Product Code | A  | B   | C  | D  | E  | Weight |
|--------------|----|-----|----|----|----|--------|
| CCR.10.X     | 10 | 7   | 25 | 10 | 14 | 22g    |
| CCR.14.X     | 14 | 9,5 | 32 | 12 | 19 | 36g    |
| CCR.20.X     | 20 | 14  | 40 | 15 | 28 | 58g    |
| CCR.20.J     | 20 | 14  | 40 | 20 | 28 | 75g    |
| CCR.30.J     | 30 | 18  | 50 | 20 | 36 | 97g    |

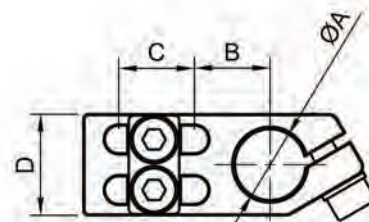
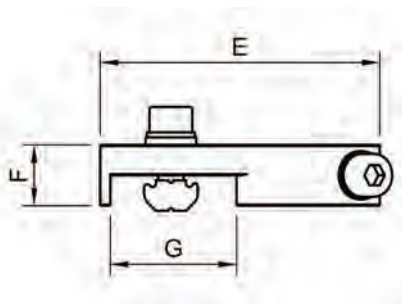
## Angle Clamp Heavy Duty



Heavy duty clamp.  
Minimises deflection due to wrap around connection.

| Product Code | A  | B    | C  | D  | E    | Weight |
|--------------|----|------|----|----|------|--------|
| ACH.10.L     | 10 | 16   | 20 | 20 | 18   | 25g    |
| ACH.10.X     | 10 | 19,5 | 25 | 25 | 12,5 | 50g    |
| ACH.14.X     | 14 | 21,5 | 25 | 25 | 12,5 | 51g    |
| ACH.20.X     | 20 | 24,5 | 32 | 30 | 12,5 | 77g    |
| ACH.20.J     | 20 | 33   | 35 | 40 | 20   | 105g   |
| ACH.30.J     | 30 | 39   | 45 | 45 | 20   | 162g   |

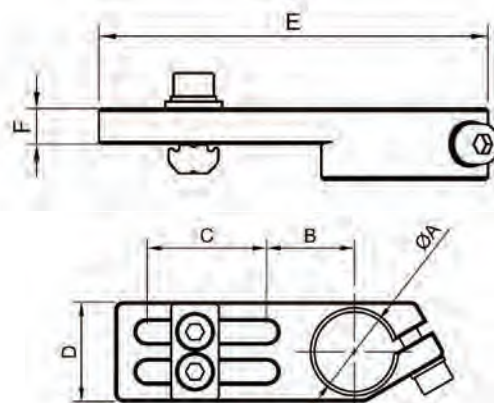




Material: Aluminium.  
ACS clamps allow for mounting flexibility.  
Kit with screws.

| Product Code | A  | B    | C  | D  | E    | F  | G  | Weight |
|--------------|----|------|----|----|------|----|----|--------|
| ACS.10.L     | 10 | 12,2 | 9  | 16 | 42   | 8  | 18 | 21g    |
| ACS.10.X     | 10 | 12,2 | 15 | 16 | 49   | 8  | 25 | 22g    |
| ACS.14.X     | 14 | 15   | 15 | 20 | 55   | 12 | 25 | 37g    |
| ACS.20.X     | 20 | 18   | 15 | 25 | 63   | 15 | 25 | 50g    |
| ACS.20.J     | 20 | 18   | 30 | 25 | 78   | 15 | 40 | 54g    |
| ACS.30.X     | 30 | 23,5 | 15 | 35 | 75,5 | 20 | 25 | 82g    |
| ACS.30.J     | 30 | 23,5 | 29 | 35 | 90,5 | 20 | 40 | 92g    |

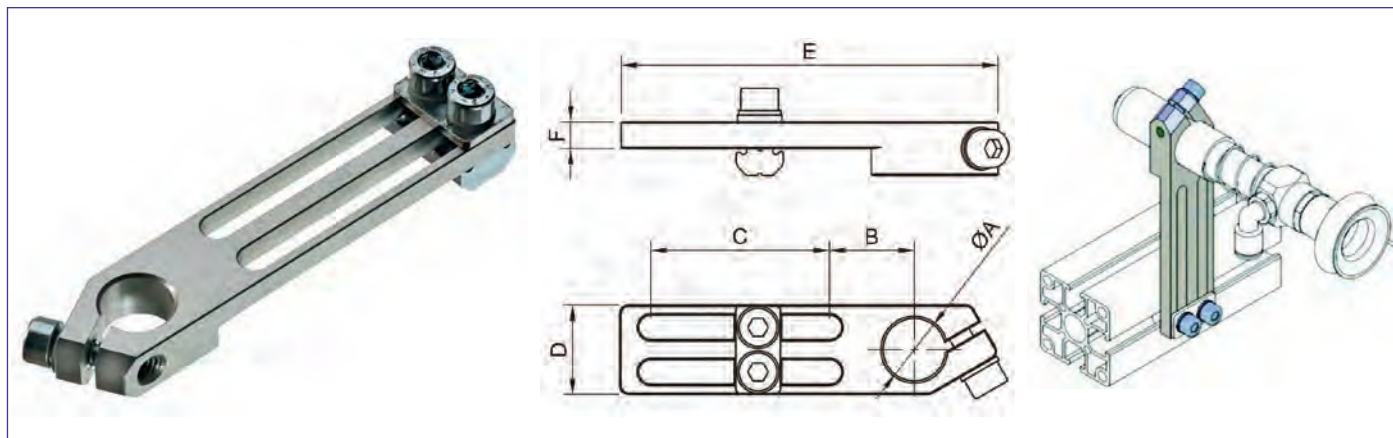
## Medium Angle Clamp



Material: Aluminium.  
ACM clamps allow for mounting flexibility.  
Kit with screws.

| Product Code | A  | B    | C  | D  | E  | F   | Weight |
|--------------|----|------|----|----|----|-----|--------|
| ACM.1020.L   | 10 | 16,5 | 20 | 16 | 56 | 4   | 23g    |
| ACM.1425.X   | 14 | 19   | 25 | 20 | 70 | 6   | 36g    |
| ACM.2035.X   | 20 | 22   | 35 | 25 | 82 | 7,5 | 55g    |
| ACM.3035.X   | 30 | 28,5 | 35 | 35 | 96 | 10  | 94g    |





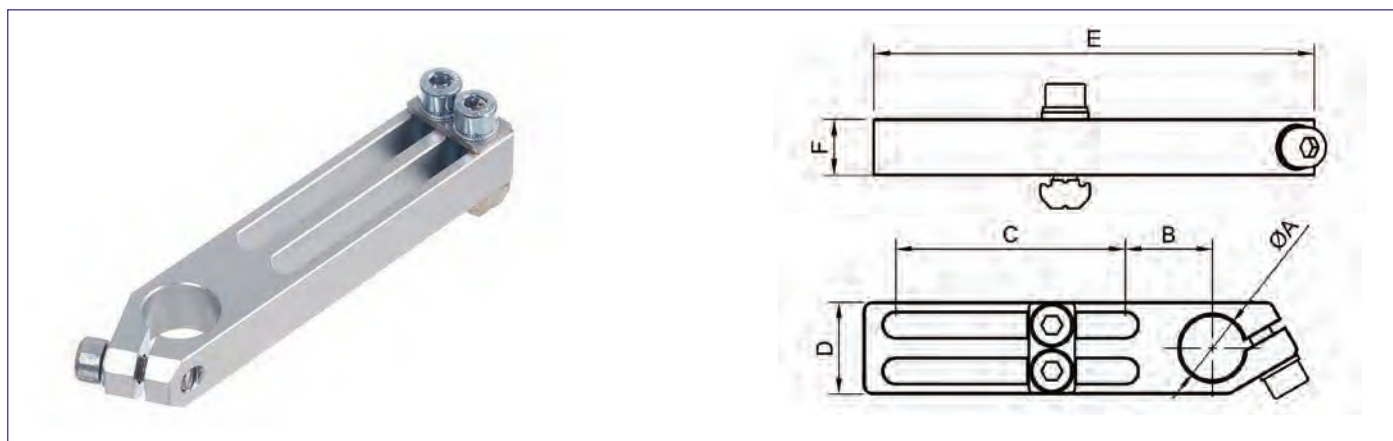
Material: Aluminium.

ACL clamps allow for mounting flexibility.

Kit with screws.

| Product Code | A  | B    | C  | D  | E   | F   | Weight |
|--------------|----|------|----|----|-----|-----|--------|
| ACL.1040.L   | 10 | 16,5 | 40 | 16 | 76  | 4   | 24g    |
| ACL.1040.X   | 10 | 16,5 | 40 | 16 | 76  | 4   | 24g    |
| ACL.1440.X   | 14 | 19   | 40 | 20 | 85  | 6   | 39g    |
| ACL.1450.X   | 14 | 19   | 50 | 20 | 95  | 6   | 42g    |
| ACL.2060.X   | 20 | 22   | 60 | 25 | 112 | 7,5 | 62g    |
| ACL.2070.J   | 20 | 22   | 70 | 28 | 123 | 7,5 | 77g    |
| ACL.3060.X   | 30 | 28,5 | 60 | 35 | 126 | 10  | 113g   |
| ACL.3070.J   | 30 | 28,5 | 70 | 35 | 136 | 10  | 130g   |

## Long Angle Clamp Heavy Duty

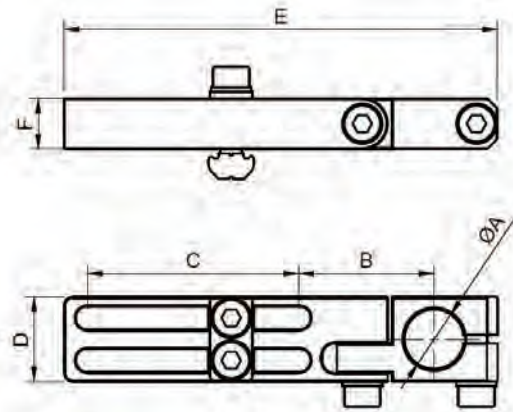


Material: Aluminium.

ACLH Heavy duty clamps allow for mounting flexibility with higher loads.

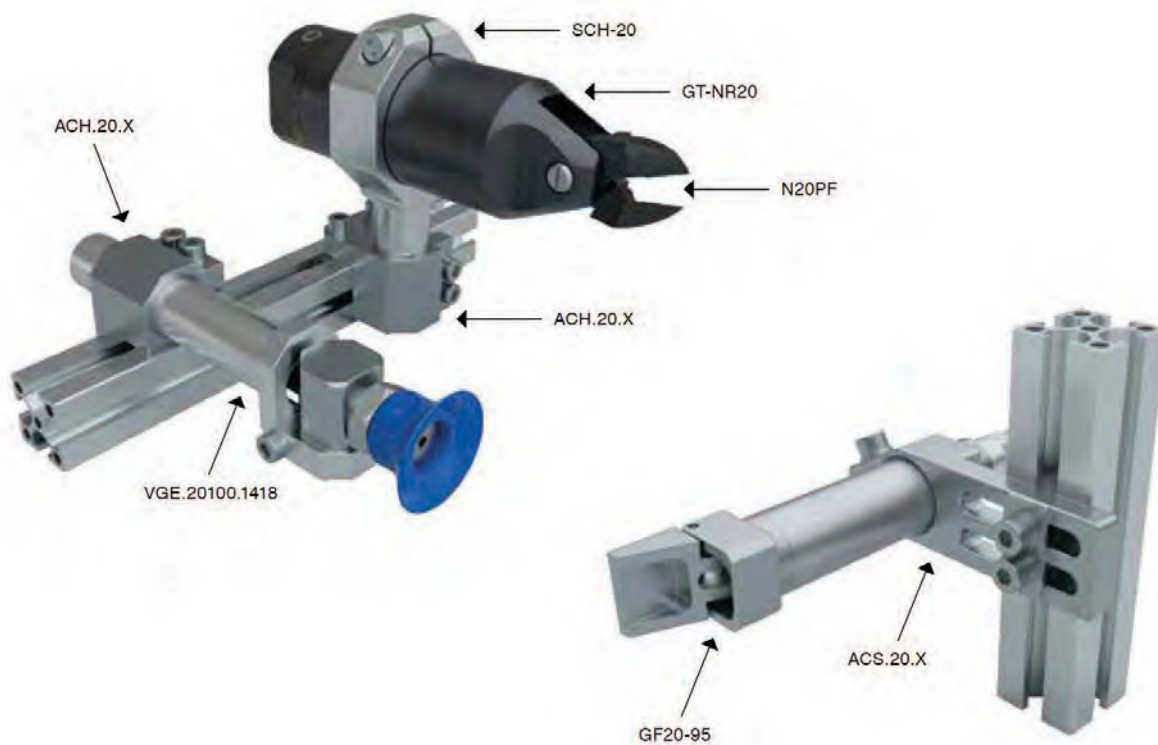
Kit with screws.

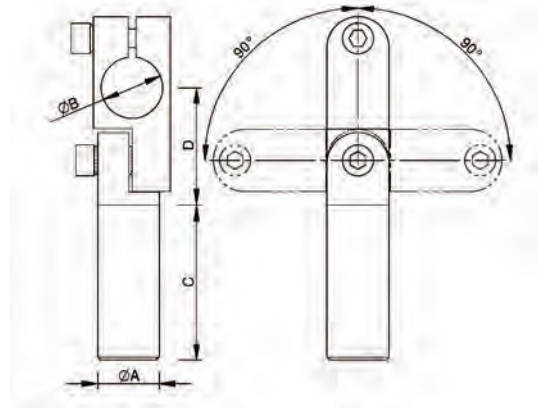
| Product Code | A  | B    | C  | D  | E   | F  | Weight |
|--------------|----|------|----|----|-----|----|--------|
| ACLH.1040.X  | 10 | 16,5 | 40 | 16 | 76  | 8  | 30g    |
| ACLH.1450.X  | 14 | 19   | 50 | 20 | 95  | 12 | 57g    |
| ACLH.2060.X  | 20 | 22   | 60 | 25 | 112 | 15 | 90g    |
| ACLH.2070.X  | 20 | 22   | 70 | 28 | 123 | 15 | 112g   |
| ACLH.3070.J  | 30 | 28,5 | 70 | 35 | 136 | 20 | 185g   |



Material: Aluminium.  
Increased flexibility in component positioning.  
Heavy duty design ensures component stability.

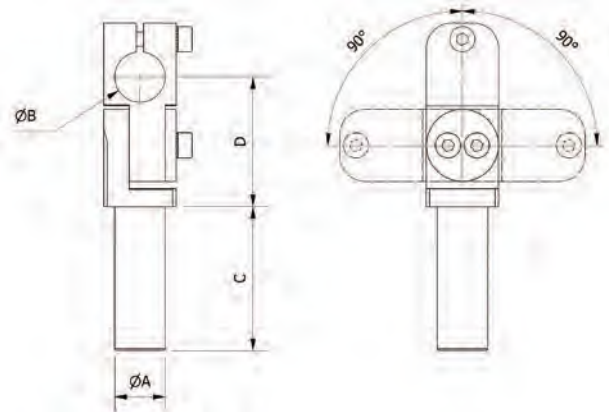
| Product Code | A  | B    | C  | D  | E     | F  | Weight |
|--------------|----|------|----|----|-------|----|--------|
| ACLS.1040.X  | 10 | 27,5 | 40 | 20 | 86    | 10 | 55g    |
| ACLS.1450.X  | 14 | 32   | 50 | 20 | 102,5 | 12 | 67g    |
| ACLS.2060.X  | 20 | 37,5 | 60 | 25 | 124,5 | 15 | 115g   |
| ACLS.3080.X  | 30 | 50   | 80 | 35 | 166,5 | 20 | 254g   |





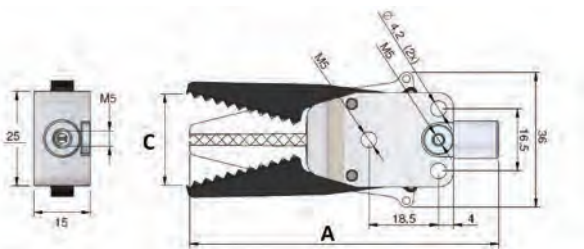
| Product Code    | A  | B  | C   | D    | Weight |
|-----------------|----|----|-----|------|--------|
| MA.GLA.1010.30  | 10 | 10 | 30  | 22   | 17g    |
| MA.GLA.1010.60  | 10 | 10 | 60  | 22   | 21g    |
| MA.GLA.1010.90  | 10 | 10 | 90  | 22   | 28g    |
| MA.GLA.1414.40  | 14 | 14 | 40  | 30   | 43g    |
| MA.GLA.1414.80  | 14 | 14 | 80  | 30   | 51g    |
| MA.GLA.1414.120 | 14 | 14 | 120 | 30   | 70g    |
| MA.GLA.2020.50  | 20 | 20 | 50  | 38   | 99g    |
| MA.GLA.2020.100 | 20 | 20 | 100 | 38   | 106g   |
| MA.GLA.2020.150 | 20 | 20 | 150 | 38   | 165g   |
| MA.GLA.2030.100 | 20 | 30 | 100 | 47   | 315g   |
| MA.GLA.3030.100 | 30 | 30 | 100 | 52,5 | 315g   |

## Gripper Elbow Arm Heavy Duty



Secure clamping for high loads.

| Product Code    | A  | B  | C   | D    | Weight |
|-----------------|----|----|-----|------|--------|
| MA.GLH.1010.030 | 10 | 10 | 30  | 30   | 27g    |
| MA.GLH.1010.060 | 10 | 10 | 60  | 30   | 31g    |
| MA.GLH.1010.090 | 10 | 10 | 90  | 30   | 37g    |
| MA.GLH.1414.040 | 14 | 14 | 40  | 36   | 56g    |
| MA.GLH.1414.080 | 14 | 14 | 80  | 36   | 66g    |
| MA.GLH.1414.120 | 14 | 14 | 120 | 36   | 83g    |
| MA.GLH.2020.050 | 20 | 20 | 50  | 45,5 | 111g   |
| MA.GLH.2020.100 | 20 | 20 | 100 | 45,5 | 127g   |
| MA.GLH.2020.150 | 20 | 20 | 150 | 45,5 | 169g   |
| MA.GLH.3030.080 | 30 | 30 | 80  | 60   | 302g   |
| MA.GLH.3030.140 | 30 | 30 | 140 | 60   | 394g   |
| MA.GLH.3030.200 | 30 | 30 | 200 | 60   | 509g   |



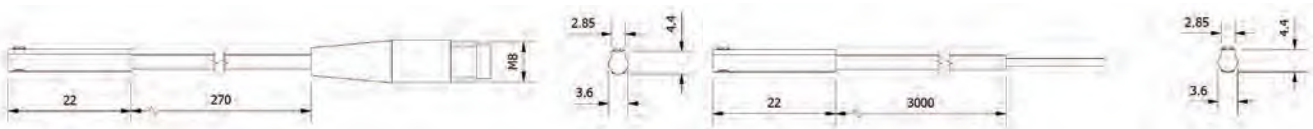
Compressed air in compliance with ISO 8573-1:2010 [7:4:4].  
Maximum Operating Pressure 8 bar.

| Product Code   | C    | A    | Jaw Type            | Sensor | Closing Force (6 bar) | Weight |
|----------------|------|------|---------------------|--------|-----------------------|--------|
| GZ12-10-10-M   | 19,5 | 75   | Serrated            |        | 30N                   | 40g    |
| GZ12-10-10-C   | 17,9 | 75   | Curved              |        | 30N                   | 36g    |
| GZ12-10-10-CKP | 19   | 76   | Curved              | PNP    | 30N                   | 45g    |
| GZ12-10-10-CKN | 19   | 76   | Curved              | NPN    | 30N                   | 45g    |
| GZ12-10-10-MC  | 19   | 75   | 1 Serrated/1 Curved |        | 30N                   | 37g    |
| GZ12-10-10-W   | 20   | 75,3 | Wide                |        | 30N                   | 39g    |
| GZ12-10-10-B   | 13   | 59,3 | Custom              |        | 30N                   | 32g    |
| GZ12-10-10-L   | 20   | 76,5 | Diamond Pattern     |        | 30N                   | 36g    |
| GZ12-10-10-L90 | 19,3 | 76   | Diamond Pattern     |        | 30N                   | 43g    |
| GZ12-10-10-LL  | 19,8 | 75,3 | Smooth              |        | 30N                   | 40g    |
| GZ12-10-10-MF  | 19,6 | 76,5 | Serrated Steel      |        | 30N                   | 58g    |

### Last Minute Sensor for GZ-12-10

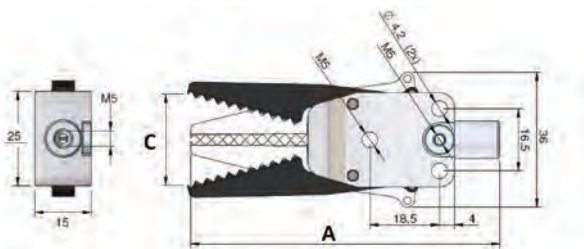
| Product Code | Output | Sensor Type | Sensing Distance | Connector | Weight |
|--------------|--------|-------------|------------------|-----------|--------|
| GZ-SCP-12-10 | PNP    | Magnetic    | 0-50mm           | M8 4pin   | 65g    |

### C-Slot Sensor SN



| Product Code | Output | Sensor Type | Connector | Lead - m | Weight |
|--------------|--------|-------------|-----------|----------|--------|
| SN.K5P.M8    | PNP    | Electronic  | M8 3pin   | 0,3      | 4g     |
| SN.K5N.M8    | NPN    | Electronic  | M8 3pin   | 0,3      | 4g     |
| SN.K5P.3MW   | PNP    | Electronic  | -         | 3        | 4g     |
| SN.K5N.3MW   | NPN    | Electronic  | -         | 3        | 4g     |

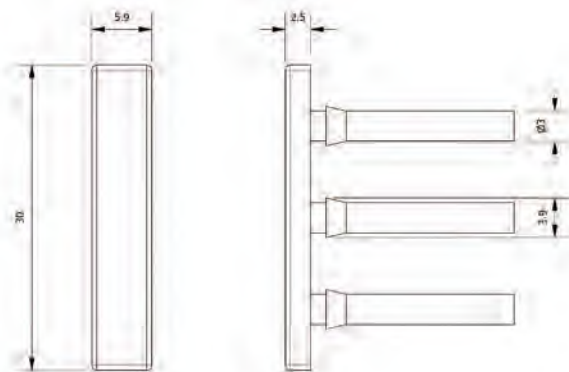




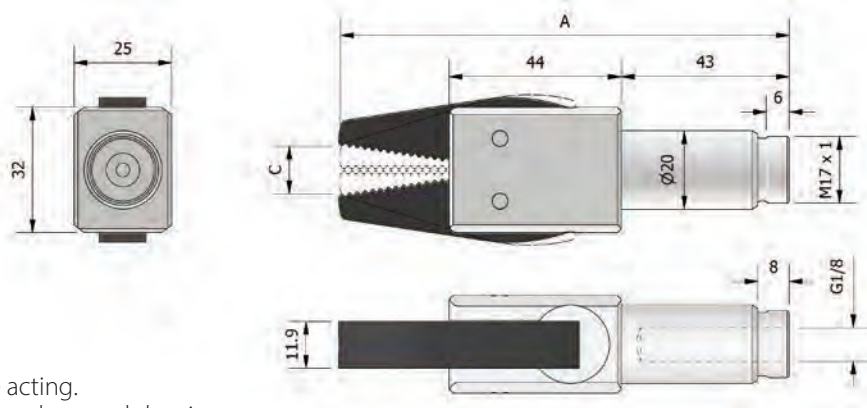
Compressed air in compliance with ISO 8573-1:2010 [7:4:4].  
Maximum Operating Pressure 8 bar.

| Product Code   | C    | A  | Jaw Type         | Sensor | Closing Force (6 bar) | Weight |
|----------------|------|----|------------------|--------|-----------------------|--------|
| GZ12-10-10     | 24   | 83 | Diamond Pattern  |        | 30N                   | 40g    |
| GZ12-10-10-KP  | 23   | 83 | Diamond Pattern  | PNP    | 30N                   | 51g    |
| GZ12-10-10-KN  | 23   | 83 | Diamond Pattern  | NPN    | 30N                   | 51g    |
| GZ12-10-10-A   | 21,3 | 82 | Saw Tooth        |        | 30N                   | 38g    |
| GZ12-10-10-AKP | 23   | 83 | Saw Tooth        | PNP    | 30N                   | 51g    |
| GZ12-10-10-AKN | 23   | 83 | Saw Tooth        | NPN    | 30N                   | 51g    |
| GZ12-10-10-G   | 22,3 | 82 | Viton Rubber Pad |        | 30N                   | 37g    |
| GZ12-10-10-GKP | 22   | 83 | Viton Rubber Pad | PNP    | 30N                   | 48g    |
| GZ12-10-10-GKN | 22   | 83 | Viton Rubber Pad | NPN    | 30N                   | 48g    |

## Jaw Insert Pad - Viton



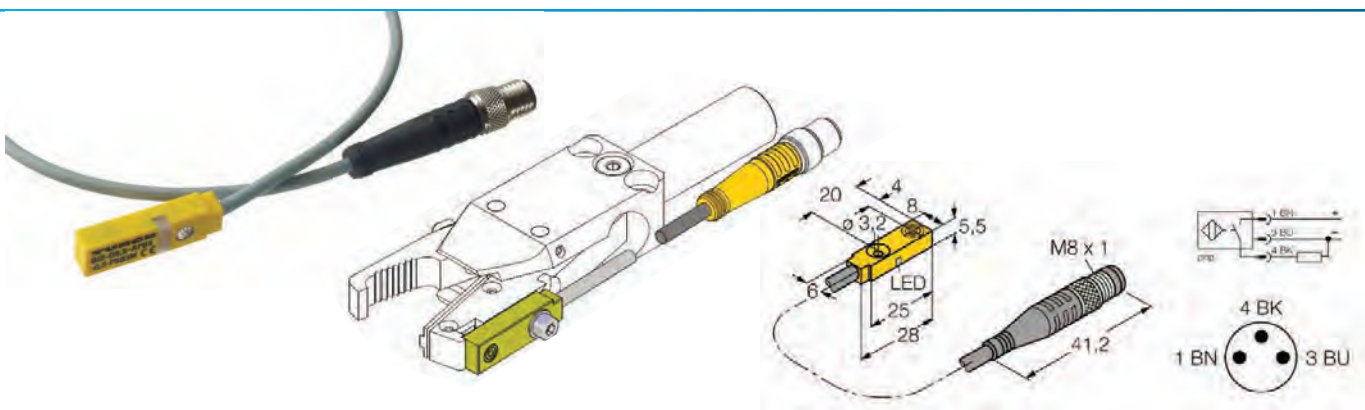
| Product Code | Material | Reference  | Weight |
|--------------|----------|------------|--------|
| GZ-VIT-6     | FKM      | GZ-12-10-G | 4g     |



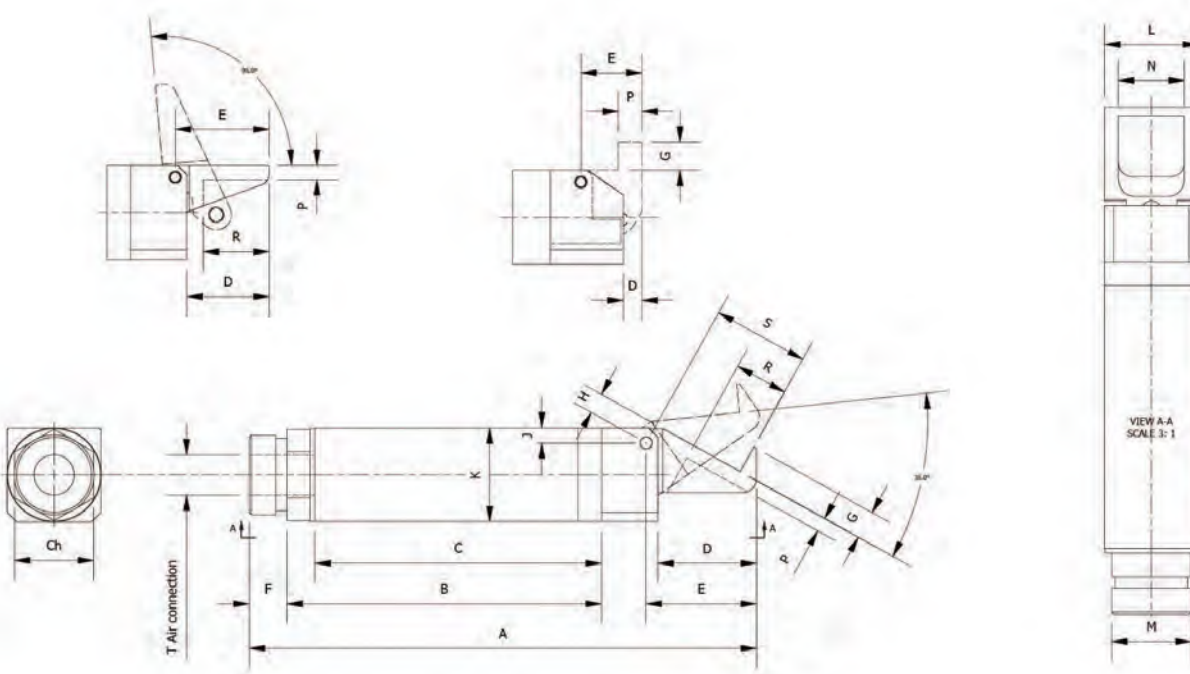
Work principle: Single acting.  
 Working pressure: 6 bar clean and dry air.  
 Material: Jaws made of hard-coated Aluminium. Body made of anodized Aluminium.

| Product Code  | Jaw Type      | A   | C  | Sensor Type | Closing Force (6 bar) | Weight |
|---------------|---------------|-----|----|-------------|-----------------------|--------|
| GZ20-10-A     | Custom        | 100 | 15 |             | 90N                   | 114    |
| GZ20-10-E     | Curved        | 115 | 21 |             | 90N                   | 117    |
| GZ20-10-L     | Curved-Smooth | 115 | 23 |             | 90N                   | 120    |
| GZ20-10-10    | Serrated      | 115 | 21 |             | 90N                   | 121    |
| GZ20-10-10-S  | Serrated      | 115 | 21 | PNP         | 90N                   | 127    |
| GZ20-10-10-SN | Serrated      | 115 | 21 | NPN         | 90N                   | 127    |
| GZ20-10-W-S   | Curved        | 115 | 21 | PNP         | 90N                   | 123    |
| GZ20-10-W-SN  | Curved        | 115 | 21 | NPN         | 90N                   | 123    |

### Sensor for GZ-20

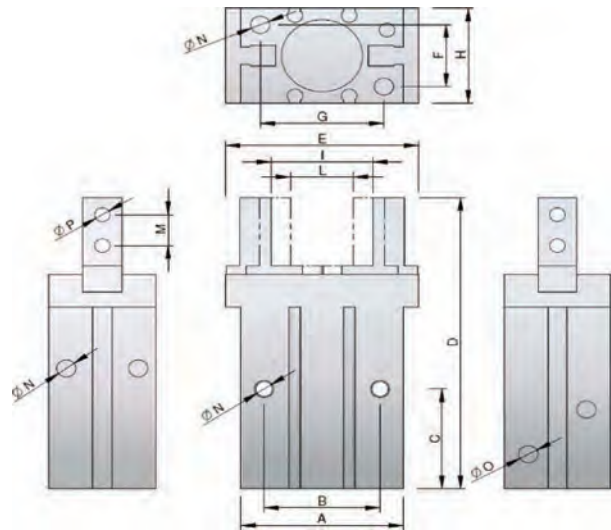


| Product Code | Type | Cable Length | Connection |
|--------------|------|--------------|------------|
| GZ20.SM8.PNP | PNP  | 300          | M8         |
| GZ20.SM8.NPN | NPN  | 300          | M8         |



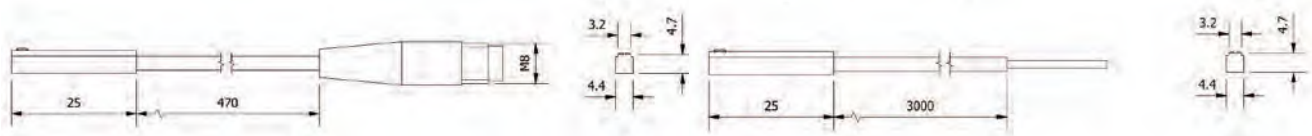
Working Principle: Single acting.  
Working pressure: 6 bar clean, dry air.  
Material: Silver anodised Aluminium.

| Product Code | Stroke | Grip Force (6 bar) | A     | B    | C    | D    | E    | F   | G   | H   | J   | K   | L  | M     | N  | P | R    | S    | T    | CH |
|--------------|--------|--------------------|-------|------|------|------|------|-----|-----|-----|-----|-----|----|-------|----|---|------|------|------|----|
| GF14-35      | 35°    | 26N                | 77    | 47,5 | 43,5 | 14   | 16   | 5,5 | 4,5 | 3,4 | 2   | Ø14 | 14 | M1xX1 | 10 | 2 | 6    | 13,5 | M5   | 12 |
| GF20-35      | 35°    | 100N               | 107   | 66   | 60   | 21   | 23,5 | 8   | 6   | 3,8 | 2,5 | Ø20 | 20 | M17x1 | 14 | 3 | 11,5 | 20,7 | G1/8 | 17 |
| GF30-35      | 35°    | 430N               | 156   | 100  | 92   | 30   | 34   | 11  | 8   | 6   | 4   | Ø30 | 30 | M27x1 | 22 | 5 | 17   | 30,8 | G1/8 | 27 |
| GF14-90      | 90°    | 19N                | 69    | 45,5 | 41,5 | 2    | 8    | 5,5 |     |     | 2   | Ø14 | 14 | M1xX1 | 10 | 4 |      |      | M5   | 12 |
| GF20-90      | 90°    | 70N                | 92,5  | 61   | 55   | 2    | 13   | 8   |     |     | 2,5 | Ø20 | 20 | M17x1 | 14 | 5 |      |      | G1/8 | 17 |
| GF30-90      | 90°    | 300N               | 135   | 91   | 83   | 2    | 20   | 11  |     |     | 4   | Ø30 | 30 | M27x1 | 22 | 6 |      |      | G1/8 | 27 |
| GF14-95      | 95°    | 19N                | 75,5  | 47,5 | 43,5 | 12   | 14   | 5,5 |     |     | 2   | Ø14 | 14 | M1xX1 | 10 | 2 | 9    |      | M5   | 12 |
| GF20-95      | 95°    | 70N                | 103,5 | 66   | 60   | 17,5 | 20   | 8   |     |     | 2,5 | Ø20 | 20 | M17x1 | 14 | 3 | 14   |      | G1/8 | 17 |
| GF30-95      | 95°    | 300N               | 148   | 100  | 90   | 25   | 29   | 11  |     |     | 4   | Ø30 | 30 | M27x1 | 22 | 5 | 21   |      | G1/8 | 27 |
| GF14-95V     | 95°    | 19N                | 75,5  | 47,5 | 43,5 | 12   | 14   | 5,5 |     |     | 2   | Ø14 | 14 | M1xX1 | 10 | 2 | 9    |      | M5   | 12 |
| GF20-95V     | 95°    | 70N                | 103,5 | 66   | 60   | 17,5 | 20   | 8   |     |     | 2,5 | Ø20 | 20 | M17x1 | 14 | 3 | 14   |      | G1/8 | 17 |
| GF30-95V     | 95°    | 300N               | 148   | 100  | 90   | 25   | 29   | 11  |     |     | 4   | Ø30 | 30 | M27x1 | 22 | 5 | 21   |      | G1/8 | 27 |



| Product Code | Bore Size | A    | B  | C    | D    | E   | F  | G  | H    | I Open | L Closed | Stroke | M   | N  | O  | P    | Force (N) Open/Close | Weight |
|--------------|-----------|------|----|------|------|-----|----|----|------|--------|----------|--------|-----|----|----|------|----------------------|--------|
| PG-10        | 10        | 23   | 16 | 23   | 57   | 30  | 12 | 18 | 16,5 | 15,5   | 11,5     | 4      | 5,7 | M3 | M3 | M2.5 | 22/34                | 56g    |
| PG-10NO      | 10        | 23   | 16 | 23   | 57   | 30  | 12 | 18 | 16,5 | 15,5   | 11,5     | 4      | 5,7 | M3 | M3 | M2.5 | 14/                  | 57g    |
| PG-10L       | 10        | 23   | 16 | 25   | 57   | 35  | 12 | 18 | 16,5 | 20,3   | 11       | 8      | 5,7 | M3 | M3 | M2.5 | 22/34                | 64g    |
| PG-16        | 16        | 30,5 | 24 | 24,5 | 67,3 | 39  | 15 | 22 | 23,5 | 21     | 15       | 6      | 7   | M4 | M5 | M3   | 68/90                | 124g   |
| PG-16NO      | 16        | 30,5 | 24 | 24,5 | 67,3 | 39  | 15 | 22 | 23,5 | 21     | 15       | 6      | 7   | M4 | M5 | M3   | 54/                  | 125g   |
| PG-16L       | 16        | 30,5 | 24 | 31   | 70   | 47  | 15 | 22 | 23,5 | 28     | 14,7     | 12     | 7   | M4 | M5 | M3   | 68/90                | 146g   |
| PG-20        | 20        | 42   | 30 | 29   | 85   | 53  | 18 | 32 | 27,5 | 26,5   | 16,5     | 10     | 9   | M5 | M5 | M4   | 90/132               | 236g   |
| PG-20NO      | 20        | 42   | 30 | 29   | 85   | 53  | 18 | 32 | 27,5 | 26,5   | 16,5     | 10     | 9   | M5 | M5 | M4   | 70/                  | 238g   |
| PG-20L       | 20        | 42   | 30 | 36   | 90   | 62  | 18 | 32 | 27,5 | 33,5   | 16,1     | 18     | 9   | M5 | M5 | M4   | 84/132               | 273g   |
| PG-25        | 25        | 52   | 36 | 30   | 103  | 71  | 22 | 40 | 33,5 | 33,5   | 19,5     | 14     | 12  | M6 | M5 | M5   | 138/204              | 428g   |
| PG-25NO      | 25        | 52   | 36 | 30   | 103  | 71  | 22 | 40 | 33,5 | 33,5   | 19,5     | 14     | 12  | M6 | M5 | M5   | 110/                 | 430g   |
| PG-25L       | 25        | 52   | 36 | 40   | 106  | 75  | 22 | 40 | 33,5 | 42,6   | 19,3     | 22     | 12  | M6 | M5 | M5   | 130/208              | 489g   |
| PG-32        | 32        | 60   | 46 | 49   | 113  | 106 | 26 | 46 | 40   | 48     | 26       | 22     | 14  | M6 | M5 | M6   | 320/390              | 729g   |

## T-Slot Sensor SN.DMSG



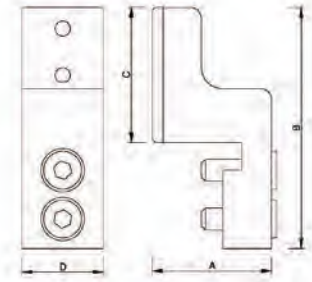
| Product Code | Output | Sensor Type | Connector | Lead - m | Ref.            | Weight |
|--------------|--------|-------------|-----------|----------|-----------------|--------|
| SN.DMSGP.M8  | PNP    | Magnetic    | M8 3 pin  | 0.5      | PG/AG/CCTQ/CCAQ | 4g     |
| SN.DMSGN.M8  | NPN    | Magnetic    | M8 3 pin  | 0.5      | PG/AG/CCTQ/CCAQ | 4g     |
| SN.DMSGP.3M  | PNP    | Magnetic    |           | 3        | PG/AG/CCTQ/CCAQ | 4g     |
| SN.DMSGN.3M  | NPN    | Magnetic    |           | 3        | PG/AG/CCTQ/CCAQ | 4g     |

## C-Slot Sensor SN.DMSH



| Product Code | Output | Sensor Type | Connector | Lead - m | Ref. | Weight |
|--------------|--------|-------------|-----------|----------|------|--------|
| SN.DMSHP.M8  | PNP    | Electronic  | M8 3 pin  | 0.5      | PG   | 4g     |
| SN.DMSHN.M8  | NPN    | Electronic  | M8 3 pin  | 0.5      | PG   | 4g     |
| SN.DMSHP.3M  | PNP    | Electronic  |           | 3        | PG   | 4g     |
| SN.DMSHN.3M  | NPN    | Electronic  |           | 3        | PG   | 4g     |

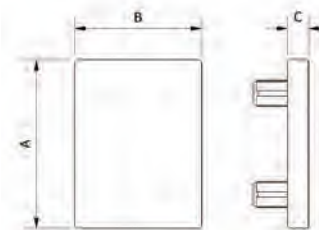




Extremely light weight (Material Aluminium).

| Product Code | A      | B    | C    | D    | E  | F     | Weight |
|--------------|--------|------|------|------|----|-------|--------|
| MA.KB.10     | FKM-10 | 15,5 | 27   | 14   | 10 | PG-10 | 14     |
| MA.KB.16     | FKM-16 | 18,5 | 35   | 20   | 15 | PG-16 | 28     |
| MA.KB.20     | FKM-20 | 22   | 44,5 | 25   | 15 | PG-20 | 41     |
| MA.KB.25     | FKM-25 | 29   | 55   | 25   | 20 | PG-25 | 73     |
| MA.KB.32     | FKM-32 | 36   | 65,5 | 36,5 | 25 | PG-32 | 166    |

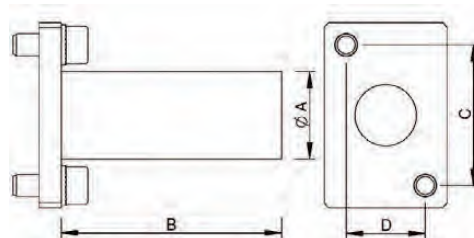
### Insert Pad Viton



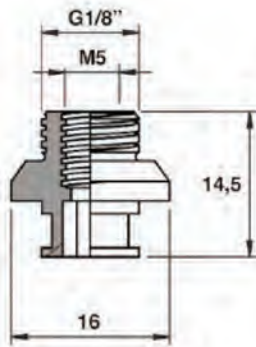
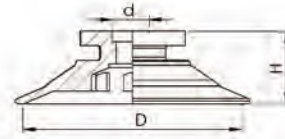
FKM = Viton (fluoroelastomer).

| Product Code | A  | B  | C   | Jaw Ref. | Weight |
|--------------|----|----|-----|----------|--------|
| FKM-10       | 14 | 10 | 2.5 | PG-10    | 1      |
| FKM-16       | 20 | 15 | 2.5 | PG-16    | 2      |
| FKM-20       | 25 | 13 | 2   | PG-20    | 1      |
| FKM-25       | 25 | 13 | 2   | PG-25    | 1      |
| FKM-32       | 30 | 20 | 3   | PG-32    | 3      |

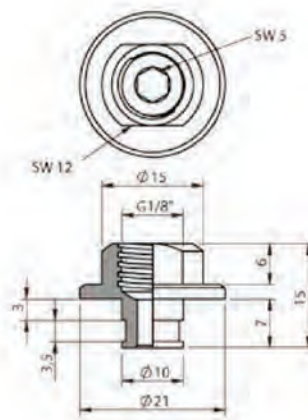
### Mounting Bracket for Grippers



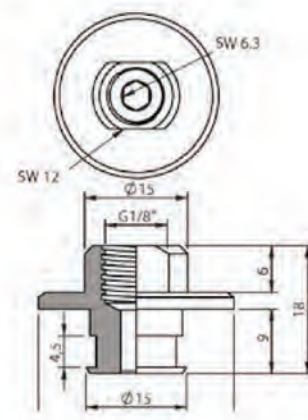
| Product Code | A  | B  | C  | D  | Ref.  | Weight |
|--------------|----|----|----|----|-------|--------|
| GA-10        | 10 | 30 | 18 | 12 | PG-10 | 11     |
| GA-16        | 14 | 40 | 22 | 15 | PG-16 | 21     |
| GA-20        | 20 | 50 | 32 | 18 | PG-20 | 38     |
| GA-25        | 20 | 50 | 40 | 22 | PG-25 | 55     |
| GA-32        | 20 | 50 | 46 | 26 | PG-32 | 102    |



F250



F251



F252

| Product Code<br>Silicone | Product Code<br>TempFlex HT | D  | H    | Fitting | Fitting | Fitting |
|--------------------------|-----------------------------|----|------|---------|---------|---------|
| F20S                     | F20HT                       | 22 | 8    | F250    |         |         |
| F25S                     | F25HT                       | 28 | 9    | F250    |         |         |
| F30S                     | F30HT                       | 32 | 10   | F250    |         |         |
| F40S                     | F40HT                       | 42 | 13   |         | F251    |         |
| F50S                     | F50HT                       | 53 | 17,5 |         |         | F252    |

### Flat Cups

The flat suction cups provide accuracy in load gripping and speeds up the cycle process. Flat cups are used for flat and slightly curved surfaces.



### 1,5 Bellow Cups

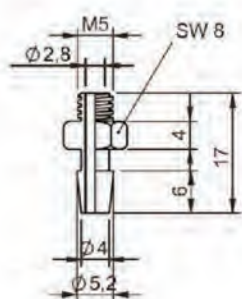
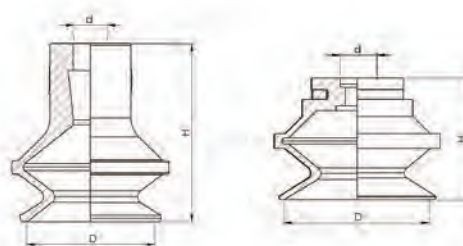
The 1,5 bellow cups combine the advantages of the flat suction cups (precision and positioning) with the freedom of belows (angle and flexibility). They provide flexibility, precision and low internal volume suitable for high-speed applications.



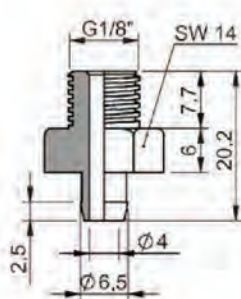
### 2,5 Bellow Cups

The suction cups with 2,5 bellow are recommended for gripping products with un-even surfaces (large deflection). The 2,5 bellow allow objects to be gripped from an angle (ball-joint effect).

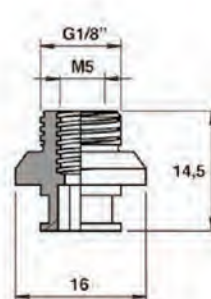




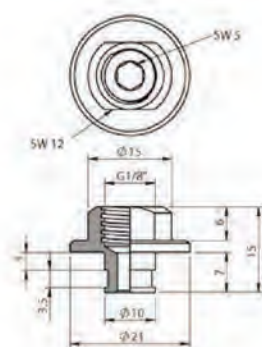
F134



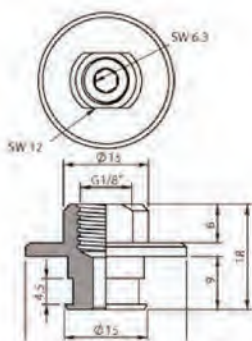
130.003



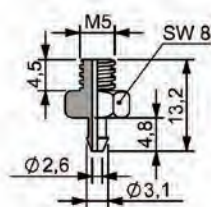
F250



F251



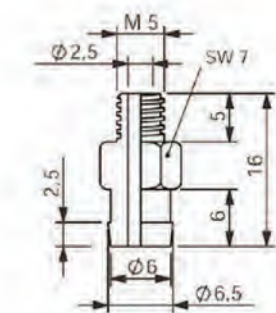
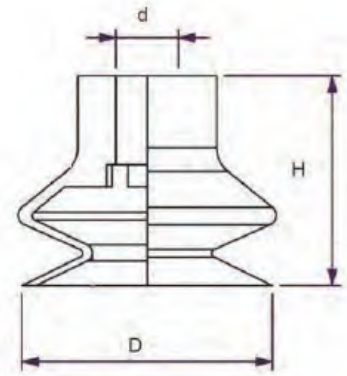
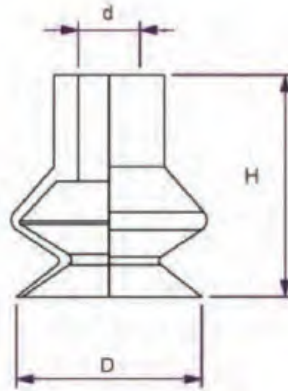
F252



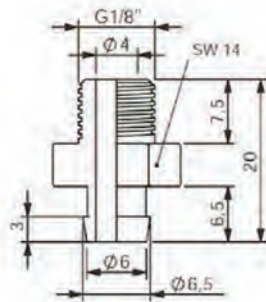
130.591

| Product Code<br>Silicone | Product Code<br>TempFlex HT | D    | D1   | d    | H   | Fitting | Fitting |
|--------------------------|-----------------------------|------|------|------|-----|---------|---------|
| B05S                     | B05HT                       | 5    |      | 2,6  | 9,5 |         | 130.591 |
| B08S                     | B08HT                       | 8,8  |      | 2    | 12  |         | 130.591 |
| B11S                     | B11HT                       | 11,0 |      | 4    | 17  | F134    | 130.003 |
| B16S                     | B16HT                       | 16,0 |      | 4    | 19  | F134    | 130.003 |
| B20S                     | B20HT                       | 21,5 | 24,0 | 4,8  | 20  | F250    |         |
| B30S                     | B30HT                       | 33,0 | 36,0 | 6    | 26  | F250    |         |
| B40S                     | B40HT                       | 42,0 | 46,0 | 7    | 28  | F251    |         |
| B50S                     | B50HT                       | 52,0 | 58,0 | 10,5 | 35  | F252    |         |

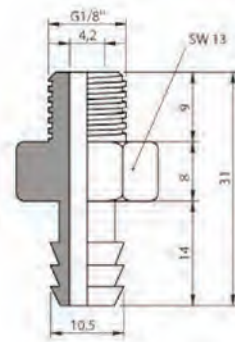




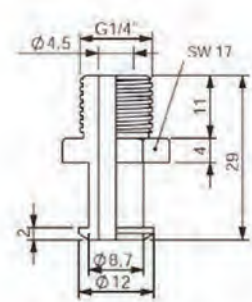
130.013



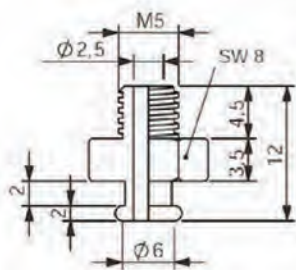
130.003



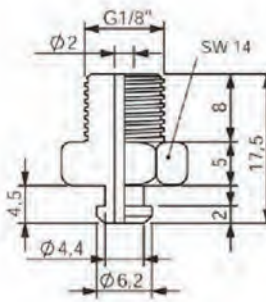
130.132



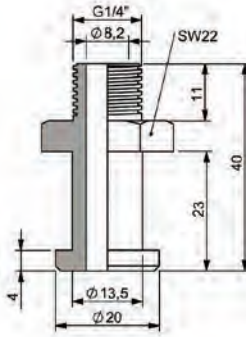
130.190



130.301



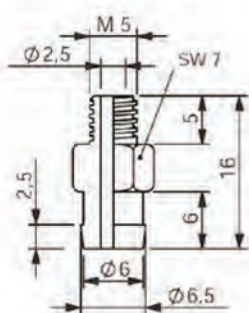
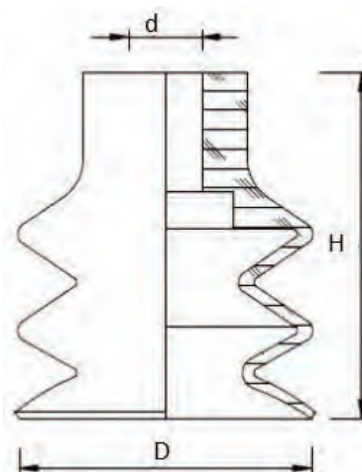
130.009



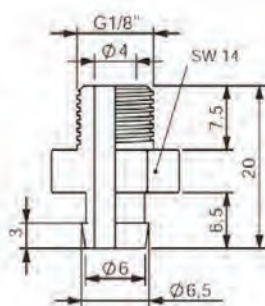
130.622

| Product Code<br>Silicone | Product Code<br>TempFlex HT | D  | d  | H  | Fitting | Fitting |
|--------------------------|-----------------------------|----|----|----|---------|---------|
| CL-1.5-06-S              | CL-1.5-06-HT                | 6  | 4  | 9  | 130.301 | 130.009 |
| CL-1.5-11-S              | CL-1.5-11-HT                | 11 | 5  | 16 | 130.013 | 130.003 |
| CL-1.5-14-S              | CL-1.5-14-HT                | 14 | 5  | 15 | 130.013 | 130.003 |
| CL-1.5-16-S              | CL-1.5-16-HT                | 16 | 5  | 19 | 130.013 | 130.003 |
| CL-1.5-20-S              | CL-1.5-20-HT                | 20 | 4  | 16 | 130.013 | 130.003 |
| CL-1.5-25-S              | CL-1.5-25-HT                | 25 | 4  | 23 | 130.013 | 130.003 |
| CL-1.5-30-S              | CL-1.5-30-HT                | 33 | 8  | 28 | 130.132 | 130.190 |
| CL-1.5-43-S              | CL-1.5-43-HT                | 43 | 8  | 28 | 130.132 | 130.190 |
| CL-1.5-53-S              | CL-1.5-53-HT                | 53 | 8  | 34 | 130.132 | 130.190 |
| CL-1.5-63-S              | CL-1.5-63-HT                | 63 | 8  | 34 | 130.132 | 130.190 |
| CL-1.5-78-S              | CL-1.5-78-HT                | 78 | 12 | 47 | 130.622 |         |

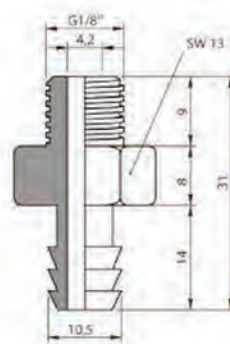




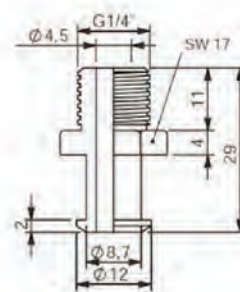
130.013



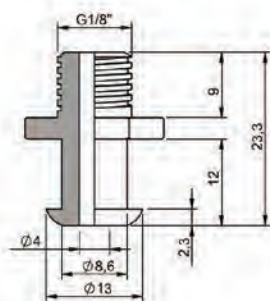
130.003



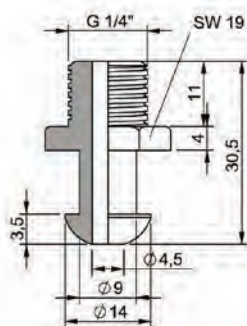
130.132



130.190

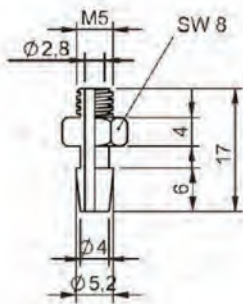
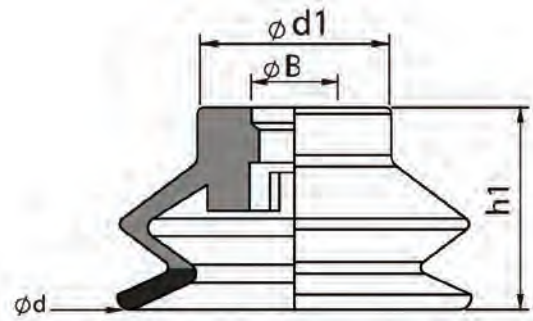


130.093

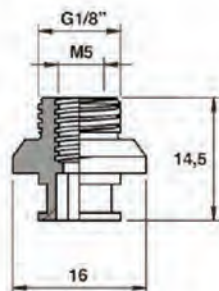


130.281

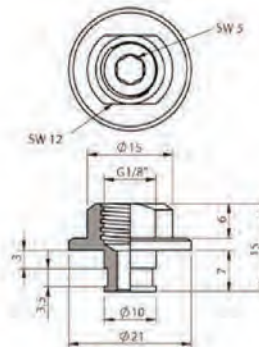
| Product Code<br>Silicone | Product Code<br>TempFlex HT | D  | d   | H  | Fitting | Fitting |
|--------------------------|-----------------------------|----|-----|----|---------|---------|
| CL-2.5-5                 | CL-2.5-5-HT                 | 5  | 4   | 14 | 130.013 | 130.003 |
| CL-2.5-7                 | CL-2.5-7-HT                 | 7  | 3,8 | 14 | 130.013 | 130.003 |
| CL-2.5-9                 | CL-2.5-9-HT                 | 9  | 4   | 15 | 130.013 | 130.003 |
| CL-2.5-12                | CL-2.5-12-HT                | 12 | 5   | 21 | 130.013 | 130.003 |
| CL-2.5-14                | CL-2.5-14-HT                | 14 | 4   | 22 | 130.013 | 130.003 |
| CL-2.5-20                | CL-2.5-20-HT                | 20 | 4,5 | 23 | 130.013 | 130.003 |
| CL-2.5-25                | CL-2.5-25-HT                | 25 | 4   | 34 | 130.013 | 130.003 |
| CL-2.5-32                | CL-2.5-32-HT                | 32 | 8   | 37 | 130.132 | 130.190 |
| CL-2.5-42                | CL-2.5-42-HT                | 42 | 8   | 46 | 130.132 | 130.190 |
| CL-2.5-52                | CL-2.5-52-HT                | 52 | 8   | 49 | 130.132 | 130.190 |
| CL-2.5-62                | CL-2.5-62-HT                | 62 | 9   | 53 | 130.093 | 130.281 |



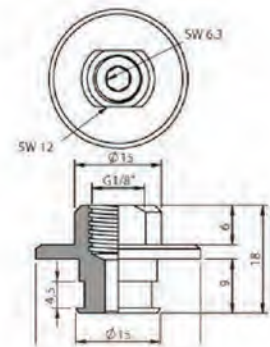
F134



F250



F251

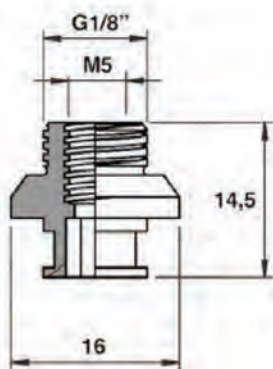
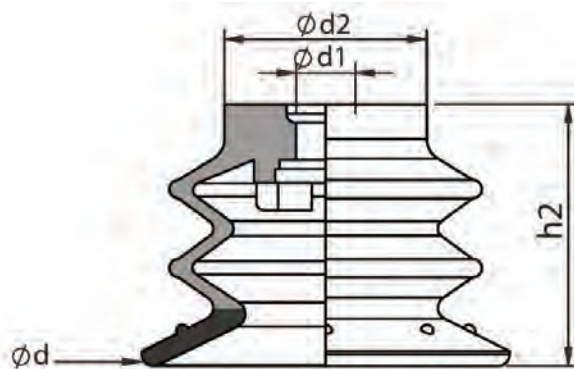


F252

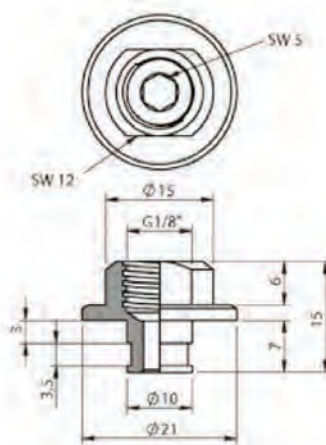
#### Multiflex vacuum cups offer outstanding advantages

- Extremely high wear resistance
- Very high lifting force
- Best static friction qualities
- No sticking tendency
- Elasticity remains unchanged for minus temperatures
- Working temperatures from -20°C to + 80°C
- Anti marking

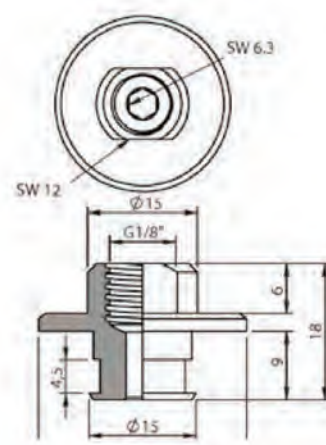
| Product Code | d  | B    | d1   | h1   | Hardness | Fitting | Fitting | Fitting | Fitting |
|--------------|----|------|------|------|----------|---------|---------|---------|---------|
| B15-10MF     | 10 | 3,9  | 9    | 16,5 | 40       | F134    |         |         |         |
| B15-16MF     | 16 | 3,9  | 9    | 19   | 30/60    | F134    |         |         |         |
| B15-20MF     | 21 | 5,2  | 12   | 18   | 30/60    |         | F250    |         |         |
| B15-30MF     | 31 | 6,5  | 16,8 | 17   | 30/60    |         |         | F251    |         |
| B15-40MF     | 41 | 6,3  | 22,4 | 22,4 | 30/60    |         |         | F251    |         |
| B15-50MF     | 51 | 10,5 | 28   | 29,2 | 30/60    |         |         |         | F252    |



F250



F251



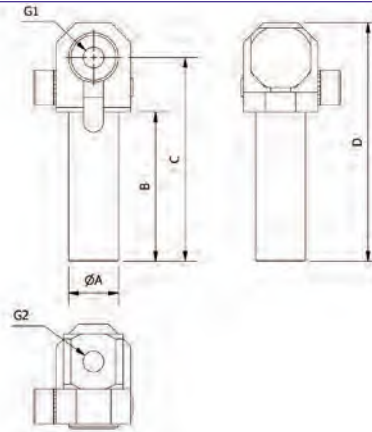
F252

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- Working temperatures from -20°C to + 80°C
- Anti marking

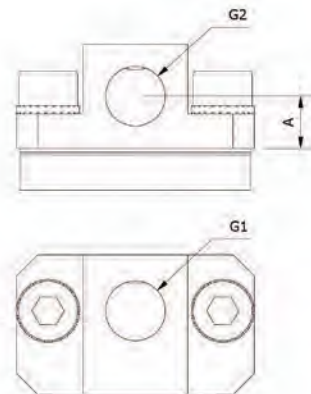
| Product Code | d    | d1   | d2   | h2    | Hardness | Fitting | Fitting | Fitting |
|--------------|------|------|------|-------|----------|---------|---------|---------|
| B25-20MF     | 20,5 | 5    | 12   | 14,8  | 30/60    | F250    |         |         |
| B25-25MF     | 26   | 5    | 15,4 | 18,9  | 30/60    | F250    |         |         |
| B25-30MF     | 30   | 5    | 16,5 | 21,3  | 30/60    | F250    |         |         |
| B25-35MF     | 35   | 6,5  | 21   | 25,63 | 30/60    |         | F251    |         |
| B25-40MF     | 40   | 6,5  | 22   | 28,4  | 30/60    |         | F251    |         |
| B25-50MF     | 50   | 10,5 | 27,5 | 35,5  | 30/60    |         |         | F252    |

Allows optimal positioning of vacuum to part contour.  
Angle adjustable between 0° and 90°.  
Side vacuum port.



| Product Code   | A  | B   | C   | D   | G1    | G2    | Weight |
|----------------|----|-----|-----|-----|-------|-------|--------|
| VGE.10030.0505 | 10 | 30  | 41  | 48  | M5    | M5    | 14g    |
| VGE.10060.0505 | 10 | 60  | 71  | 78  | M5    | M5    | 17g    |
| VGE.10090.0505 | 10 | 90  | 101 | 108 | M5    | M5    | 20g    |
| VGE.14040.1818 | 14 | 40  | 56  | 65  | G 1/8 | G 1/8 | 29g    |
| VGE.14080.1818 | 14 | 80  | 96  | 105 | G 1/8 | G 1/8 | 38g    |
| VGE.14120.1818 | 14 | 120 | 136 | 145 | G 1/8 | G 1/8 | 45g    |
| VGE.20050.1418 | 20 | 50  | 68  | 80  | G 1/8 | G 1/4 | 56g    |
| VGE.20100.1418 | 20 | 100 | 118 | 130 | G 1/8 | G 1/4 | 70g    |
| VGE.20150.1418 | 20 | 150 | 168 | 180 | G 1/8 | G 1/4 | 87g    |
| VGE.20050.1414 | 20 | 50  | 68  | 80  | G 1/4 | G 1/4 | 55g    |
| VGE.20100.1414 | 20 | 100 | 118 | 130 | G 1/4 | G 1/4 | 69g    |
| VGE.20150.1414 | 20 | 150 | 168 | 180 | G 1/4 | G 1/4 | 86g    |

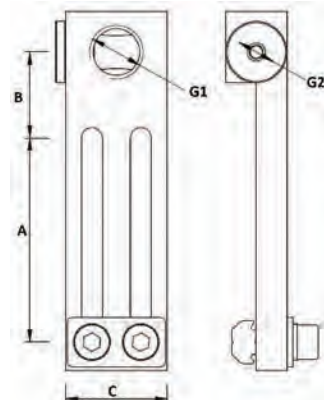
## Vacuum Cup Mounting Bracket



Vacuum connection for use when space is limited.

| Product Code | A   | G1    | G2    | Weight |
|--------------|-----|-------|-------|--------|
| VMB.0505.X   | 4   | M5    | M5    | 27g    |
| VMB.1818.X   | 7,5 | G 1/8 | G 1/8 | 35g    |
| VMB.1414.X   | 10  | G 1/4 | G 1/4 | 39g    |

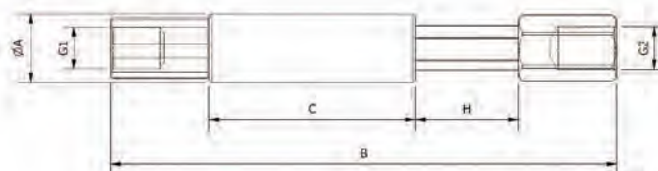




Allows inline adjustment of vacuum cup position.

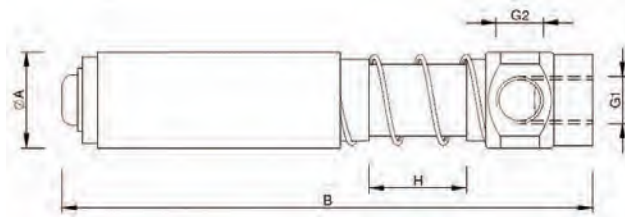
| Product Code | A  | B  | C  | G1    | G2    | Weight |
|--------------|----|----|----|-------|-------|--------|
| VML0505.40.L | 40 | 14 | 16 | M5    | M5    | 24g    |
| VML1818.50.X | 50 | 21 | 25 | G 1/8 | G 1/8 | 65g    |
| VML1418.50.X | 50 | 21 | 25 | G 1/4 | G 1/8 | 65g    |
| VML1414.50.J | 50 | 23 | 25 | G 1/4 | G 1/4 | 73g    |

## Rod For Vacuum Cups



Body and rod made of aluminium - anodized.  
Non Rotative.

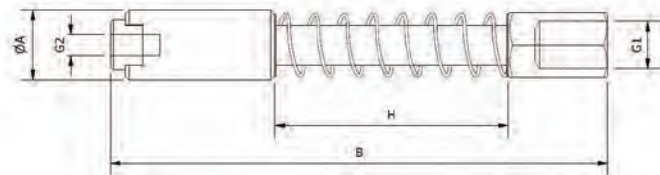
| Product Code  | A  | B   | C  | G1    | G2    | H  | F(N) | Weight |
|---------------|----|-----|----|-------|-------|----|------|--------|
| MPSDN.1010    | 10 | 61  | 26 | M5    | M5    | 10 | 3,6  | 8g     |
| MPSDN.1025    | 10 | 91  | 41 | M5    | M5    | 25 | 3,7  | 11g    |
| MPSDN.1420    | 14 | 103 | 42 | G 1/8 | G 1/8 | 20 | 8,9  | 25g    |
| MPSDN.1435    | 14 | 135 | 60 | G 1/8 | G 1/8 | 35 | 9,5  | 32g    |
| MPSDN.2025    | 20 | 114 | 55 | G 1/8 | G 1/8 | 25 | 11   | 63g    |
| MPSDN.2050    | 20 | 167 | 82 | G 1/8 | G 1/8 | 50 | 11,4 | 81g    |
| MPSDN.2025.14 | 20 | 114 | 55 | G 1/4 | G 1/4 | 25 | 11   | 59g    |
| MPSDN.2050.14 | 20 | 161 | 82 | G 1/4 | G 1/4 | 50 | 11,4 | 77g    |



For use with round vacuum cups only.

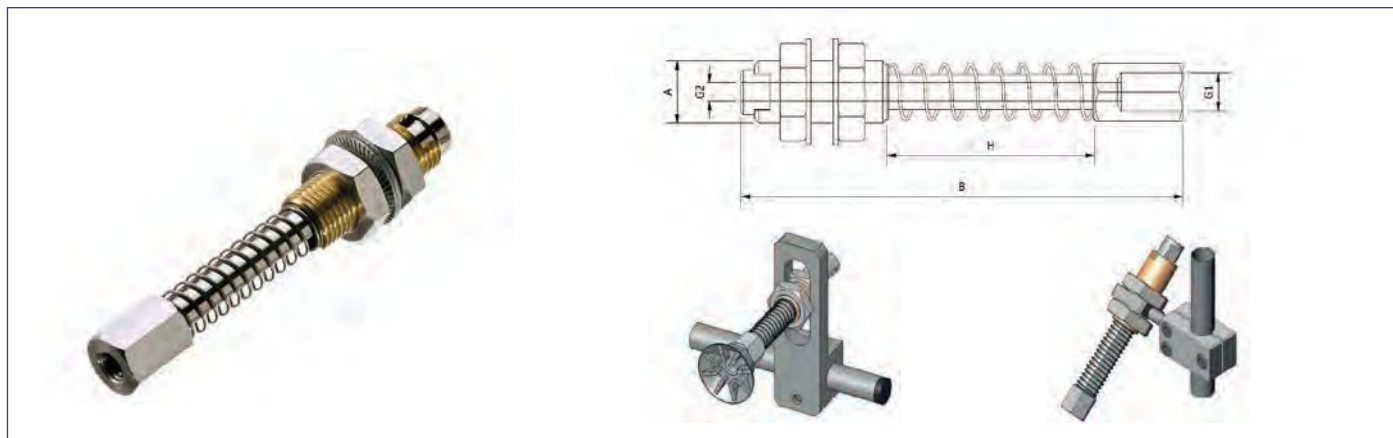
| Product Code    | A  | B   | G1    | G2    | H  | F(N) | Weight |
|-----------------|----|-----|-------|-------|----|------|--------|
| MA.GGD.10050510 | 10 | 59  | M5    | M5    | 10 | 8    | 11g    |
| MA.GGD.10050530 | 10 | 85  | M5    | M5    | 30 | 11   | 15g    |
| MA.GGD.14181815 | 14 | 84  | G 1/8 | G 1/8 | 15 | 9    | 33g    |
| MA.GGD.14181840 | 14 | 109 | G 1/8 | G 1/8 | 40 | 14,6 | 38g    |
| MA.GGD.20141820 | 20 | 109 | G 1/4 | G 1/8 | 20 | 11,7 | 76g    |
| MA.GGD.20141850 | 20 | 147 | G 1/4 | G 1/8 | 50 | 16,8 | 92g    |

### Level Compensator Smooth Body (Non-rotative)



Spring: Steel.  
Sliding Parts: Chrome-plated Brass.  
Terminal Parts: Anodized Aluminium.

| Product Code | A  | B   | G1    | G2    | H  | F(N) | Weight |
|--------------|----|-----|-------|-------|----|------|--------|
| LC.10.20     | 10 | 69  | M5    | M5    | 20 | 3,4  | 26g    |
| LC.12.20     | 12 | 69  | M5    | M5    | 20 | 18,4 | 33g    |
| LC.14.38     | 14 | 100 | G 1/8 | M5    | 38 | 23,3 | 63g    |
| LC.20.48     | 20 | 125 | G 1/4 | G 1/8 | 48 | 16,6 | 155g   |

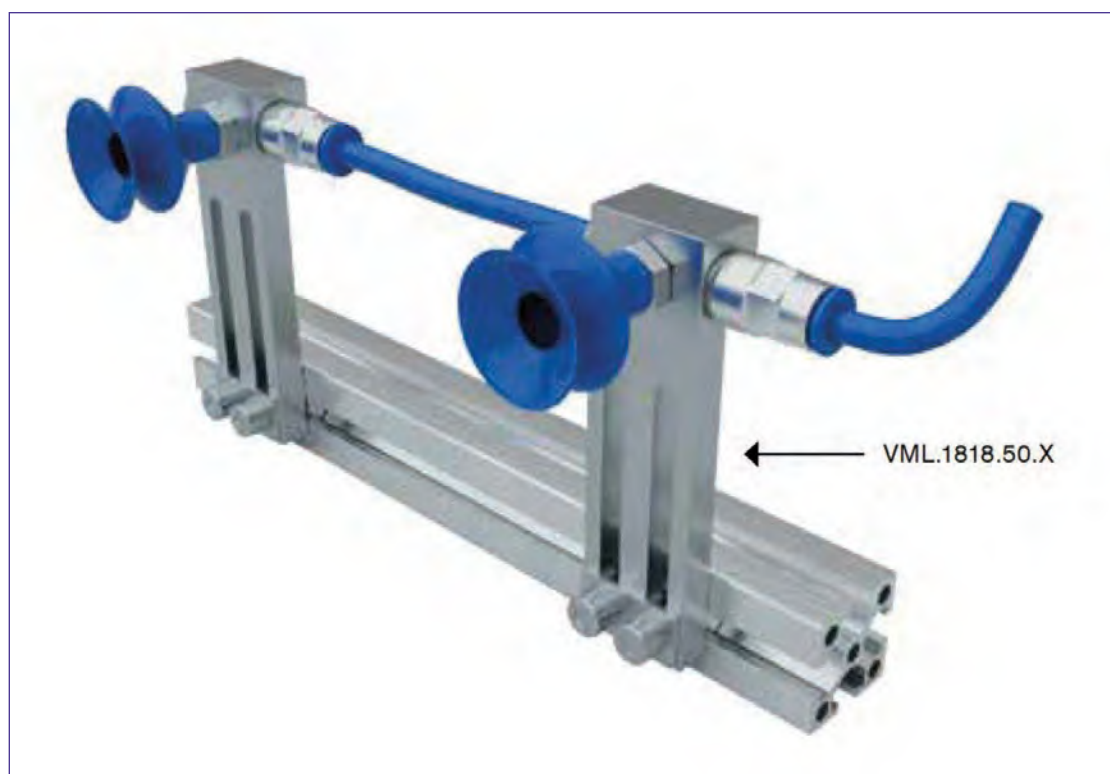


Spring: Steel.

Sliding Parts: Chrome-plated Brass.

Terminal Parts: Anodized Aluminium.

| Product Code | A        | B   | G1    | G2    | H  | F(N) | Weight |
|--------------|----------|-----|-------|-------|----|------|--------|
| LC.M10.20    | M10x1    | 70  | M5    | M5    | 20 | 3,4  | 36g    |
| LC.M12.20    | M12x1.25 | 77  | G 1/8 | M5    | 20 | 6    | 40g    |
| LC.M14.38    | M14x1.5  | 100 | G 1/8 | M5    | 38 | 23,2 | 71g    |
| LC.M20.48    | M20x1.5  | 125 | G 1/4 | G 1/8 | 48 | 16,7 | 189g   |





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#### **CONTACT HALES**

[www.hales.com.au](http://www.hales.com.au)

[info@hales.com.au](mailto: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