

## Wide Angle Gripper – SZ

- Improved jaw guidance.
- Double acting
- Spring closed (upon request).
- Patented self-centering system.
- Different options for fastening and feeding.
- Stainless steel jaws.
- Optional proximity magnetic sensors on page 650.



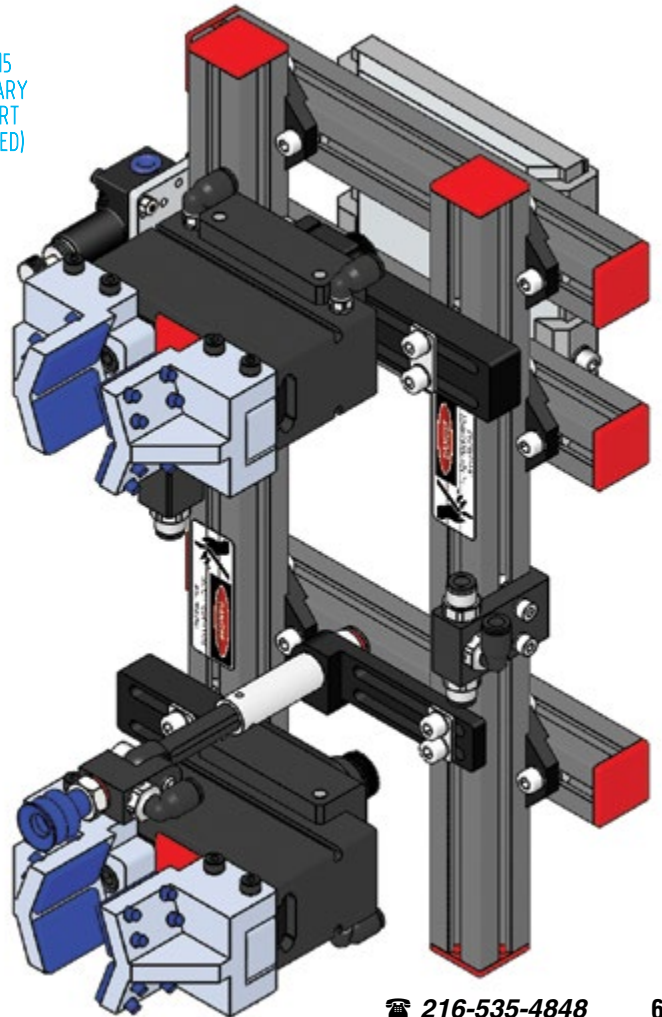
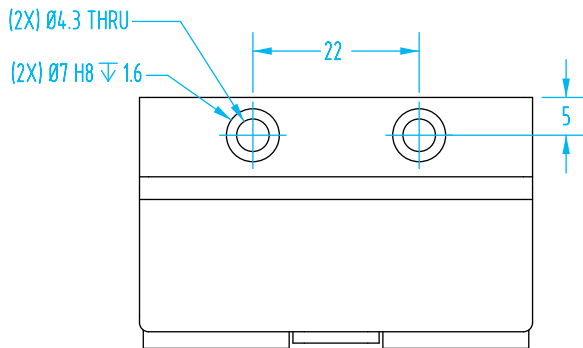
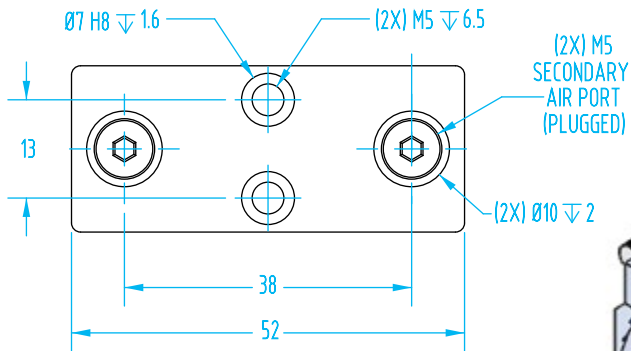
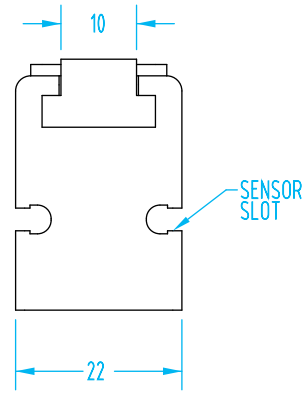
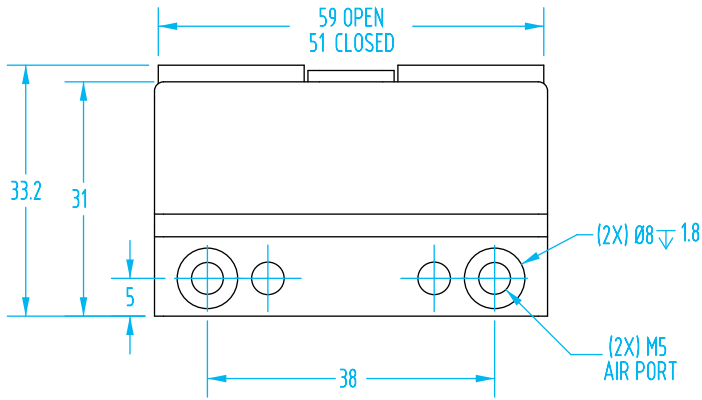
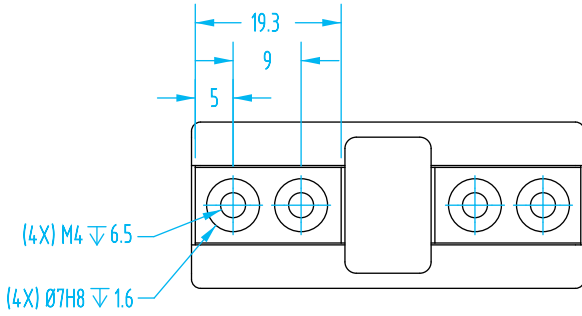
Part#	SZ12	SZ16	SZ25	SZ32	SZ40
Quick#	6760	6761	6762	6763	6764
Price	\$174.00	\$185.00	\$210.00	\$258.00	\$286.00
Medium	Filtered, lubricated / non-lubricated compressed air				
Pressure range	29–116 psi		14.5–116 psi		
Opening total gripping force at 87 psi	11 lbf	20 lbf	52 lbf	85 lbf	139 lbf
Closing total gripping force at 87 psi	11 lbf	20 lbf	52 lbf	85 lbf	139 lbf
Total stroke (± 0.4mm)	8mm	12mm	20mm	25mm	30mm
Maximum working frequency	3Hz	3Hz	2Hz	2Hz	2Hz
Mid-stroke detection capability	No		Yes, with use of magnetoresistive sensor		
Weight	101g	164g	474g	783g	1135g

Use Quick#s for easy online ordering.

**Wide Angle Gripper – SZ**

**SZ12  
#6760**

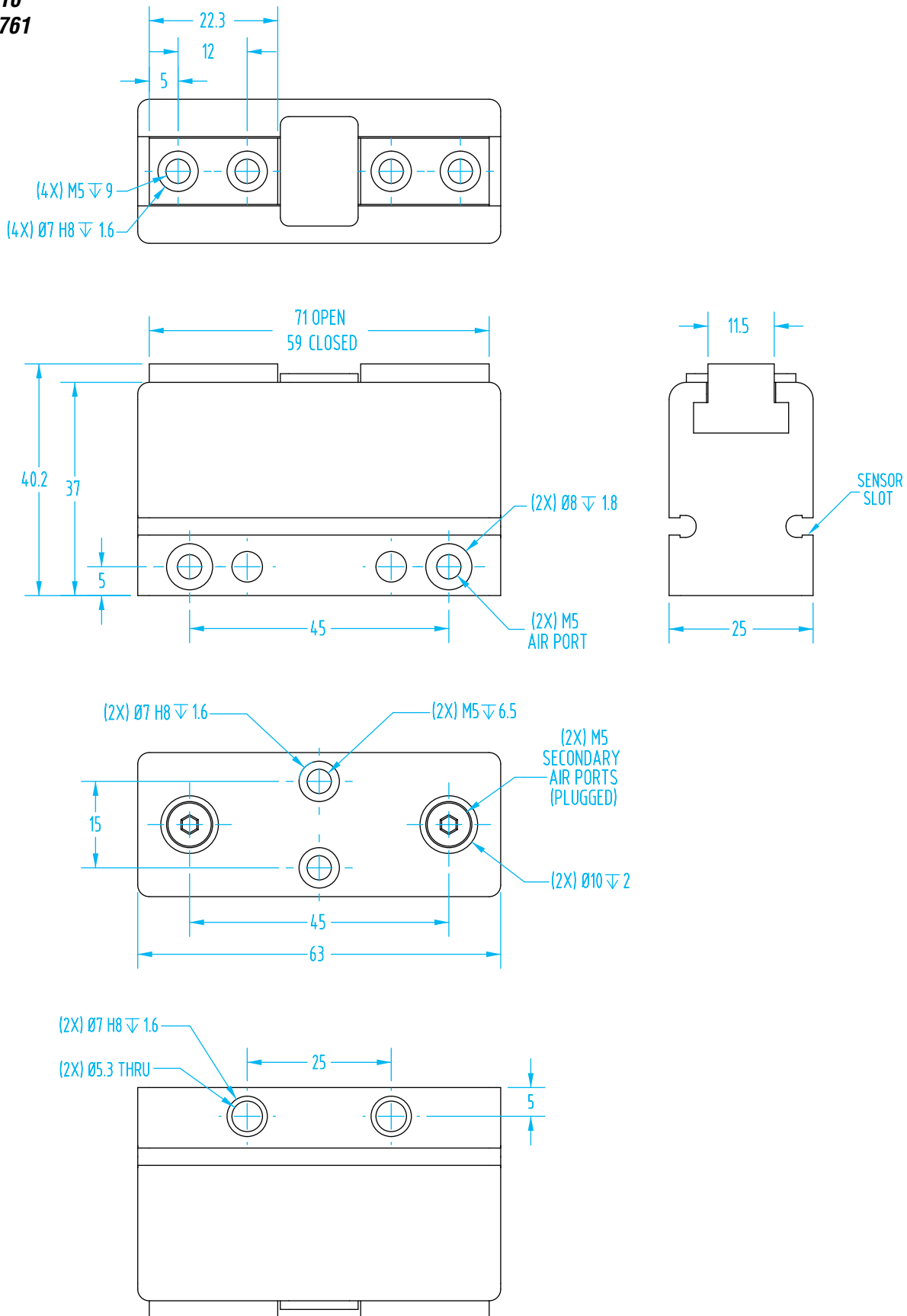
(Dimensioned drawing shown full scale)



# Wide Angle Gripper – SZ

(Dimensioned drawing shown full scale)

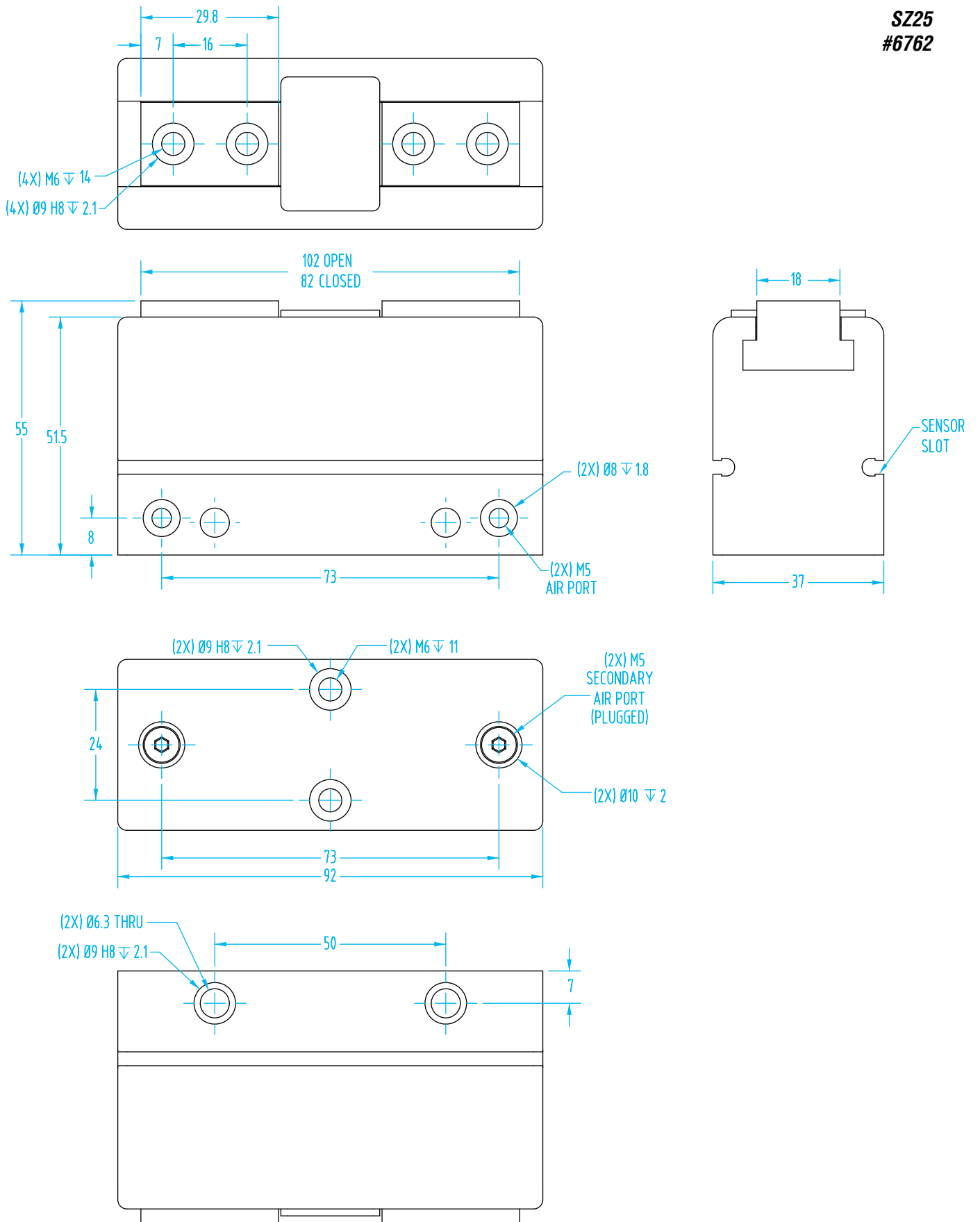
**SZ16  
#6761**



**Wide Angle Gripper – SZ**

**SZ25  
#6762**

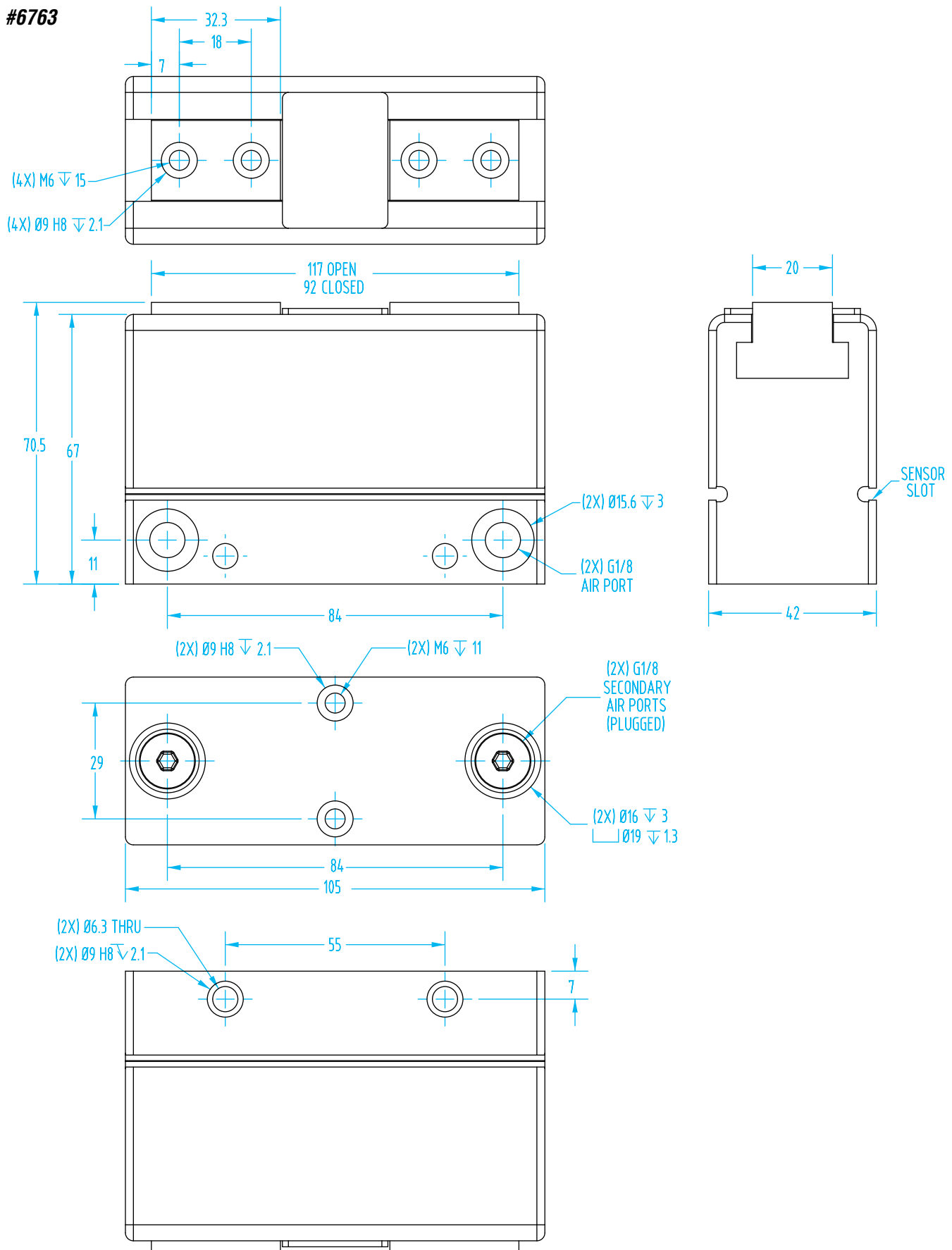
(Dimensioned drawing shown at 90% scale)



# Wide Angle Gripper – SZ

(Dimensioned drawing shown at 75% scale)

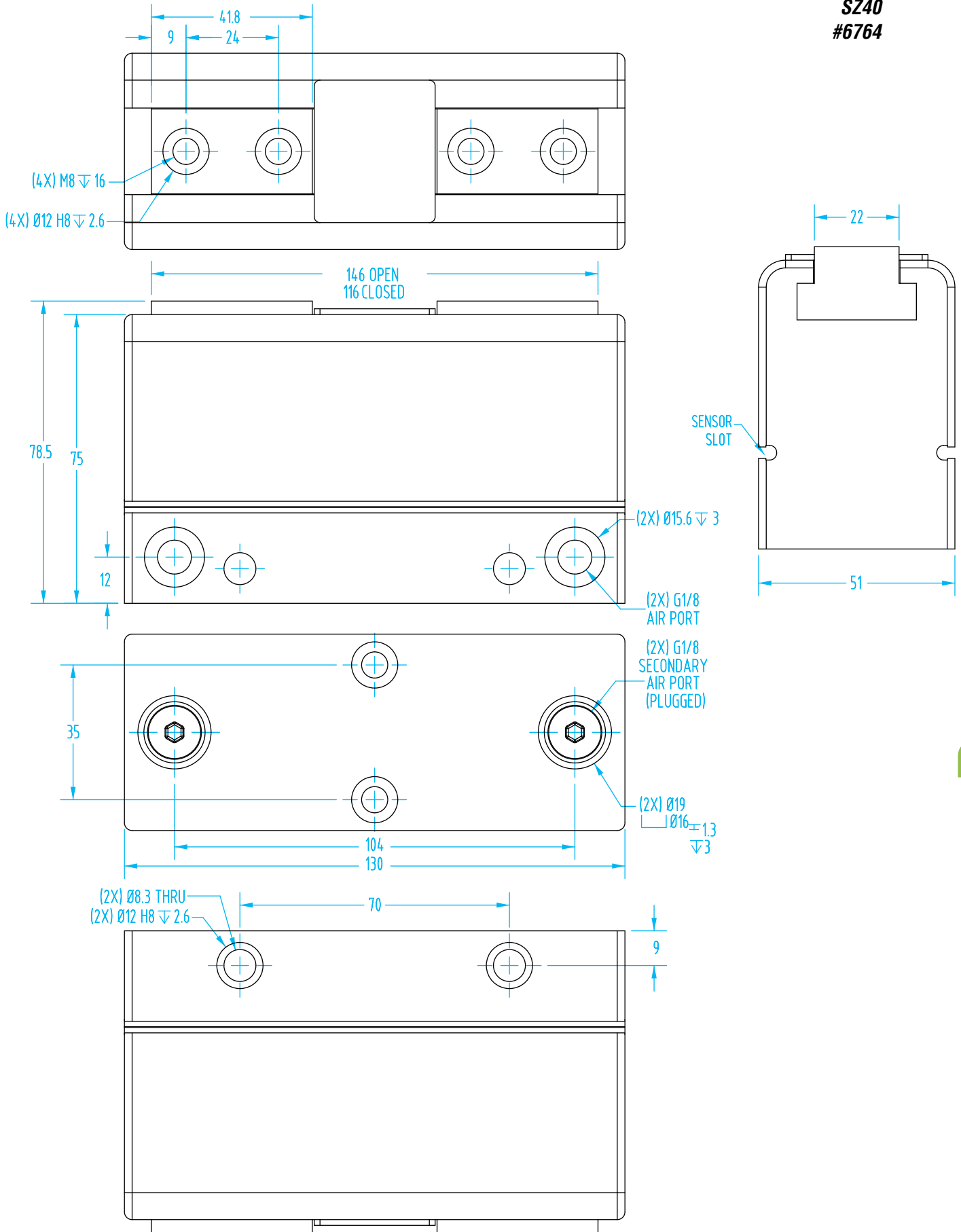
**SZ32**  
**#6763**



**Wide Angle Gripper – SZ**

**SZ40  
#6764**

(Dimensioned drawing shown at 75% scale)



## Wide Angle Gripper – SZ

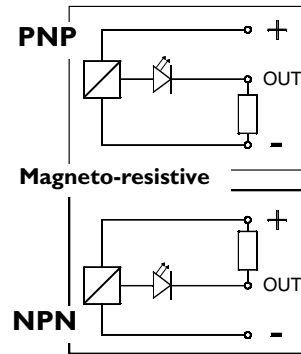
### Sensors

The operating position can be checked by magnetic sensors (optional), that detect the magnet on the piston inside. Therefore a nearby big mass of ferromagnetic material or intense magnetic fields may cause sensing troubles.



Quick#	Part#	Type	Connection	Price
<b>3-wire, SS type 'C' slot sensor</b>				
1882	SS4N225G	PNP	2.5m lead	\$26.14
1883	SS4M225G	NPN	2.5m lead	\$26.14
6282	SS3N203G	PNP	0.3m lead & M8 male connector	\$29.96
1884	SS3M203G	NPN	0.3m lead & M8 male connector	\$29.96
<b>3-wire, 90° Lead exit, SN type 'C' slot sensor</b>				
6278	SN4N225G	PNP	2.5m lead	\$26.14
6357	SN4M225G	NPN	2.5m lead	\$26.14
6277	SN3N203G	PNP	0.3m lead & M8 male connector	\$29.96
6356	SN3M203G	NPN	0.3m lead & M8 male connector	\$29.96

Note: M8 Extension cables Quick#’s 2582 & 2583 available on page 981.

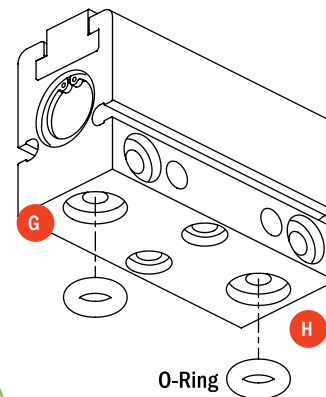


### Compressed air feeding

The compressed air feeding can be accomplished on the lateral air ports (P and R) with fittings and hoses (not supplied). Or it can be accomplished directly through the bottom air ports (G and H) by removing the plugs (E and F).

Compressed air in P - H: gripper opening.  
Compressed air in R - G: gripper closing.

The compressed air, must be filtered from 5 to 40 µm. Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper. The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



	SZ-12	SZ-16	SZ-25	SZ-32	SZ-40
<b>O-Ring</b>	Ø2.62x5.23	Ø2.62x5.23	Ø2.62x5.23	Ø1.78x15.6	Ø1.78x15.6

**Wide Angle Gripper – SZ**

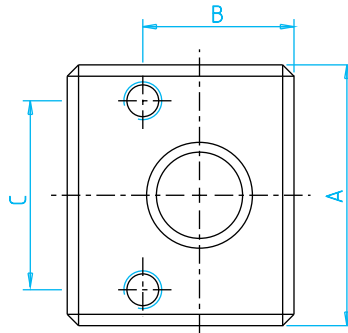
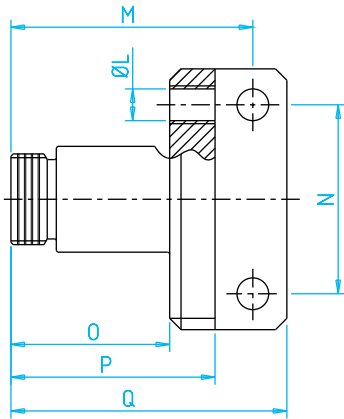
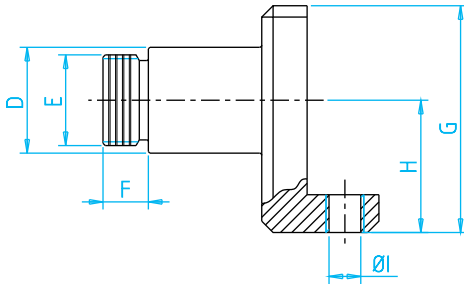
**Mounting Brackets for SZ Grippers**

Quick#	Part#	Price	Use with:	Wt.
7321	MFI-A325	\$32.11	SZ12	33g
7322	MFI-A326	\$33.09	SZ16	41g
7323	MFI-A327	\$54.17	SZ25	140g

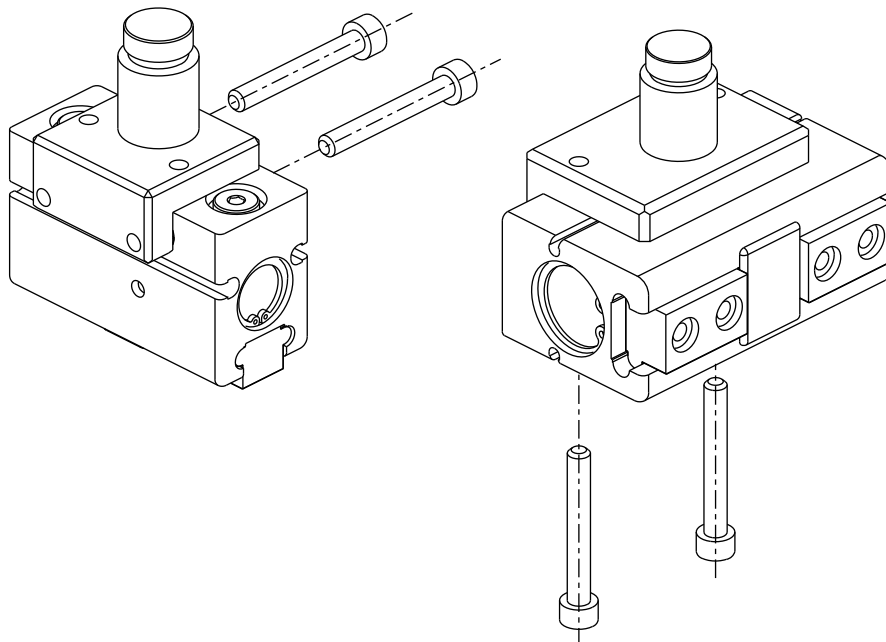
*Hardware included.*



#7322



Quick#	7321	7322	7323
<b>For:</b>	<b>SZ12</b>	<b>SZ16</b>	<b>SZ25</b>
A	29	34.5	62
B	17	20	30
C	22	25	50
D	Ø14	Ø14	Ø20
E	M12x1	M12x1	M17x1
F	6	6	8
G	28	30	45
H	17	17.5	26.5
I	M4	M5	M6
L	M4	M5	M6
M	32	32	46
N	22	25	50
O	21	21	29
P	27	27	39
Q	35.5	36.5	52

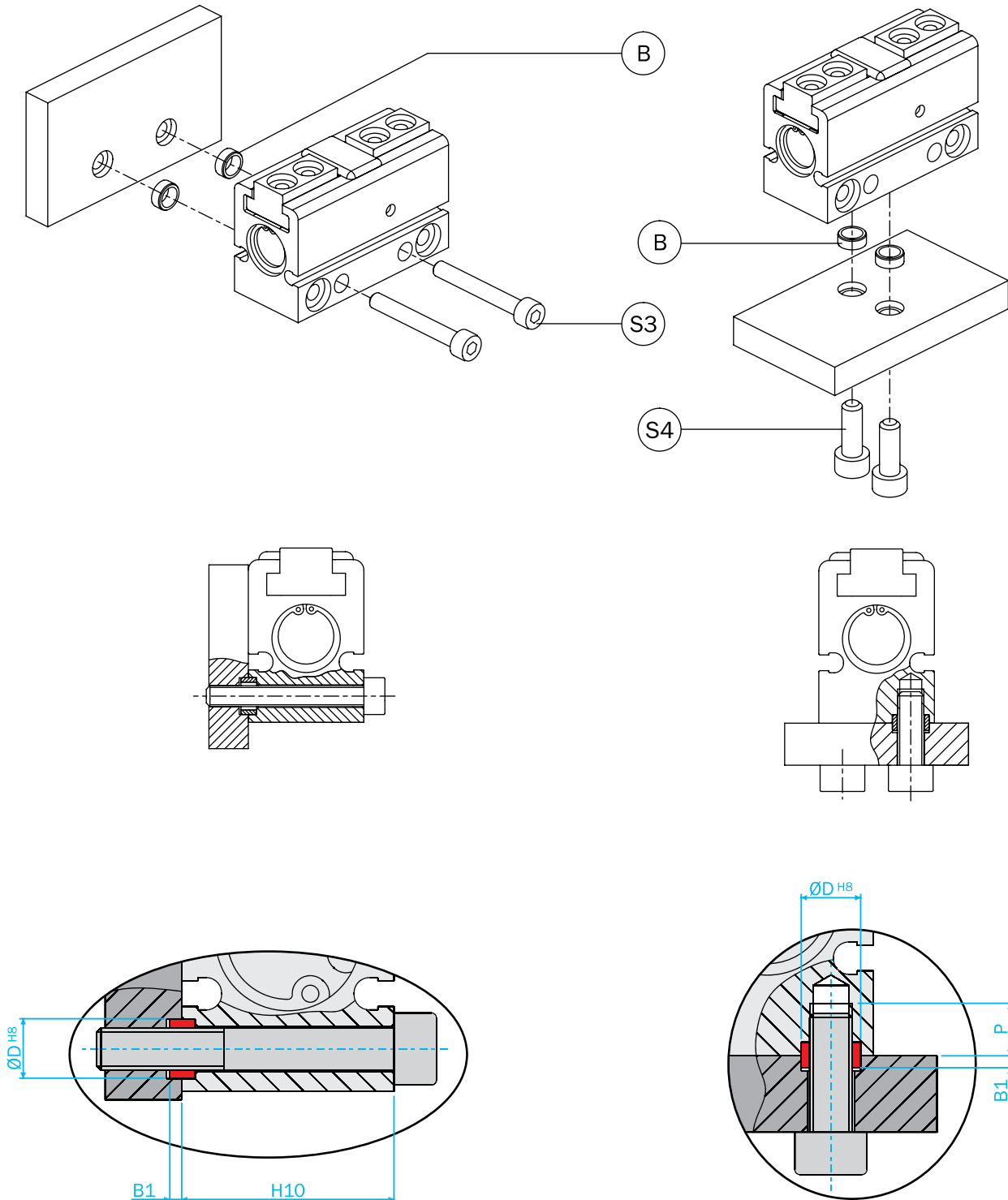




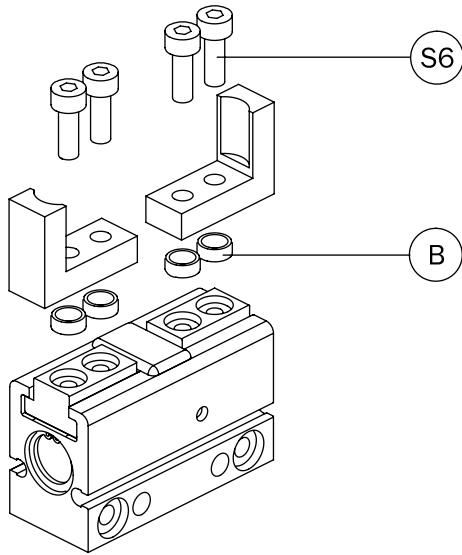
## Wide Angle Gripper – SZ

### Fastening

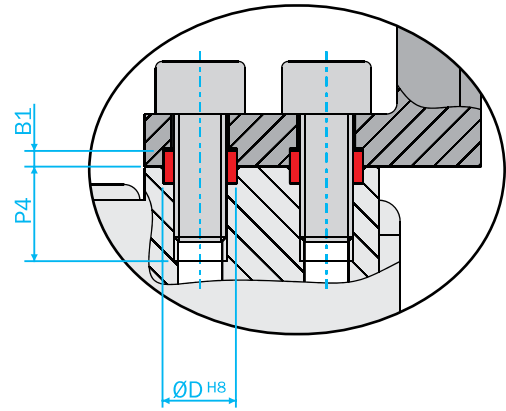
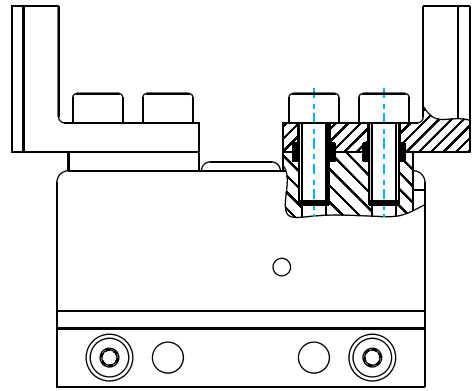
The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia over the gripper and its load. It can be fastened to one side or to the base. Use two(2) screws (S3) and two(2) centering sleeves (B).



**Wide Angle Gripper – SZ**



The gripping tools must be as short and light as possible. They must be fastened by two(2) screws (S6) and two(2) centering sleeves (B).



Four (4) centering sleeves (B) for the gripping tools and two (2) centering sleeves (B) for housing are supplied in the packaging.

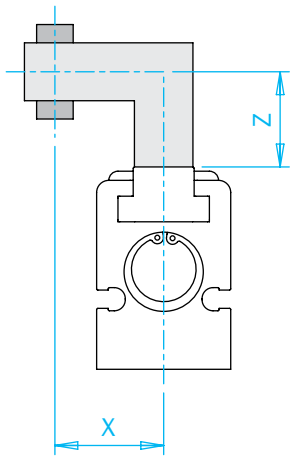
	<b>SZ-12</b>	<b>SZ-16</b>	<b>SZ-25</b>	<b>SZ-32</b>	<b>SZ-40</b>
<b>B</b>	Ø7 H=3	Ø7 H=3	Ø9 H=4	Ø9 H=4	Ø12 H=5
<b>B1</b>	1.4	1.4	1.9	1.9	2.4
<b>D</b>	Ø7 H8	Ø7 H8	Ø9 H8	Ø9 H8	Ø12 H8
<b>S3</b>	M4	M5	M6	M6	M8
<b>S4</b>	M5	M5	M6	M6	M8
<b>P5</b>	6.5	6.5	11	11	15
<b>H10</b>	22	25	37	42	51
<b>S6</b>	M4	M5	M6	M6	M8
<b>P4</b>	6.5	9	14	15	16

# Wide Angle Gripper – SZ

## Gripping force

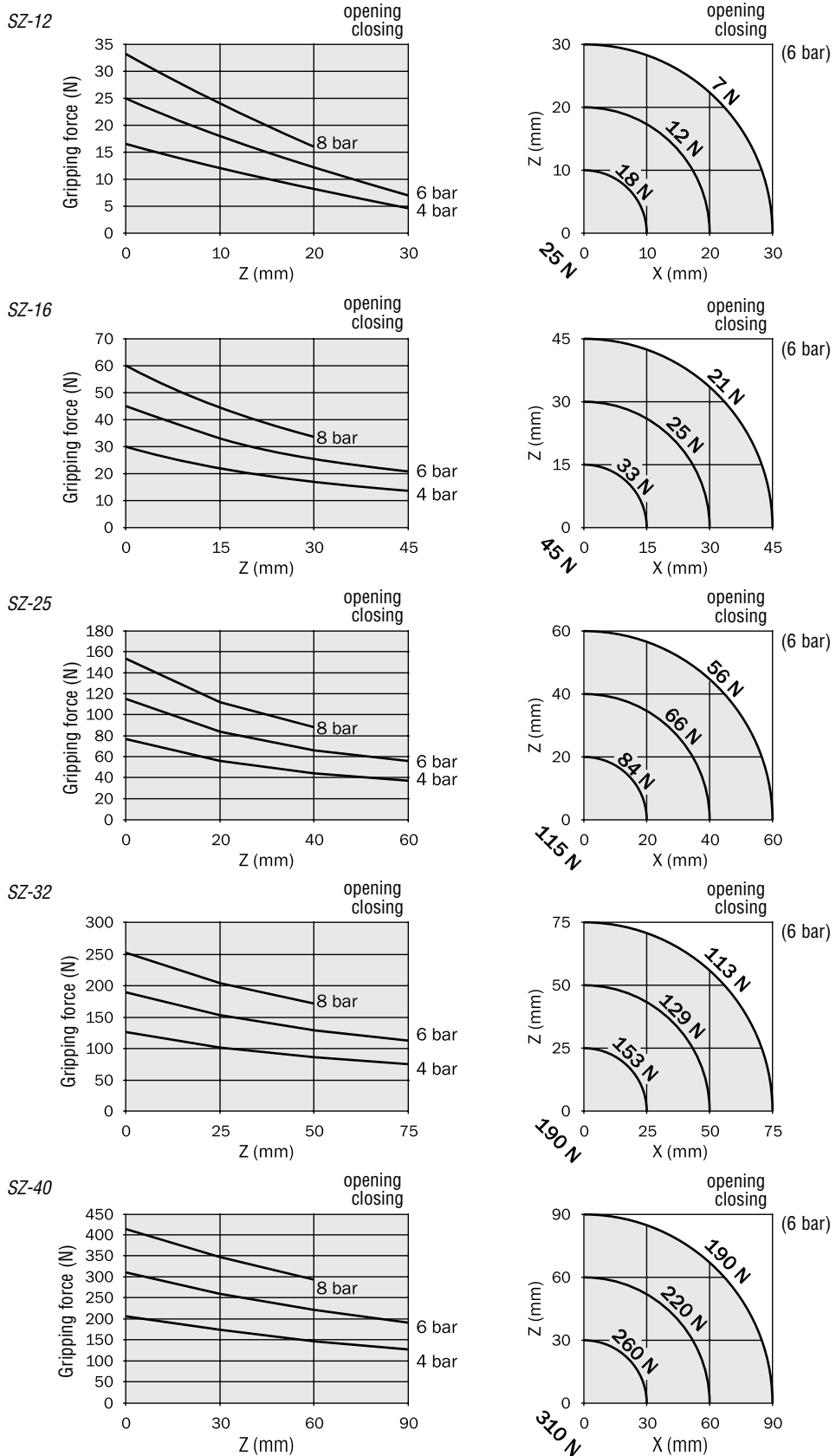
The graphs show the gripping force on each jaw, as a function of the operating pressure, the gripping tool length 'Z' and the overhanging 'X'.

The force shown in these graphs refers to one jaw.  
The total force is double.



**Reference:**

- Force:** N x 0.225 = lbf
- Torque:** Nm x 8.850 = in-lbf
- Torque:** Ncm x 0.089 = in-lbf
- Pressure:** bar x 14.5 = psi



## Wide Angle Gripper – SZ

### Safety loads

Check the table for maximum permitted loads. Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.

$F_s$ ,  $M_x s$ ,  $M_y s$ ,  $M_z s$ , are maximum permitted static loads.

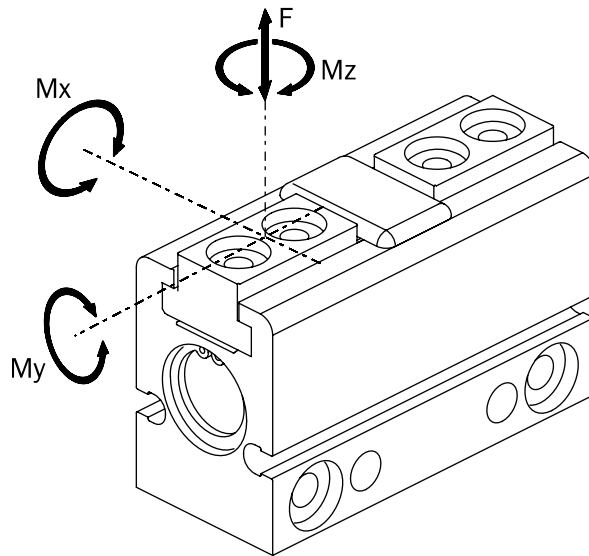
Static means with motionless jaws.

$F_d$ ,  $M_x d$ ,  $M_y d$ ,  $M_z d$ , are maximum permitted dynamic loads. Dynamic means with running jaws.

The following tables show the specified maximum loads (m) on each gripping tool as function of closing or opening time. Use flow controllers (not supplied) to get the proper speed.

**New jaw design has increased the Safety Loads listed below.**

Fittings Available  
on page 1037



#### Reference:

**Force:**  $N \times 0.225 = \text{lbf}$

**Torque:**  $\text{Nm} \times 8.850 = \text{in-lbf}$

**Torque:**  $\text{Ncm} \times 0.089 = \text{in-lbf}$

**Pressure:**  $\text{bar} \times 14.5 = \text{psi}$

	SZ-12	SZ-16	SZ-25	SZ-32	SZ-40
<b>F s</b>	50 N	100 N	200 N	400 N	700 N
<b>Mx s</b>	0.5 Nm	2 Nm	6 Nm	18 Nm	36 Nm
<b>My s</b>	0.3 Nm	1.5 Nm	4 Nm	12 Nm	24 Nm
<b>Mz s</b>	0.5 Nm	2 Nm	6 Nm	18 Nm	36 Nm
<b>F d</b>	1 N	2 N	4 N	8 N	12 N
<b>Mx d</b>	1 Ncm	4 Ncm	12 Ncm	24 Ncm	36 Ncm
<b>My d</b>	0.8 Ncm	3 Ncm	8 Ncm	16 Ncm	24 Ncm
<b>Mz d</b>	1 Ncm	4 Ncm	12 Ncm	24 Ncm	36 Ncm
<b>m 0.3s</b>	-	-	-	800g	1200g
<b>m 0.2s</b>	-	-	400g	600g	900g
<b>m 0.12s</b>	-	200g	320g	400g	600g
<b>m 0.07s</b>	100g	160g	240g	300g	-
<b>m 0.05s</b>	80g	120g	160g	-	-
<b>m 0.04s</b>	60g	80g	-	-	-
<b>m 0.02s</b>	40g	-	-	-	-