

Gripper

Type HHGZ

Angular Gripper with stroke



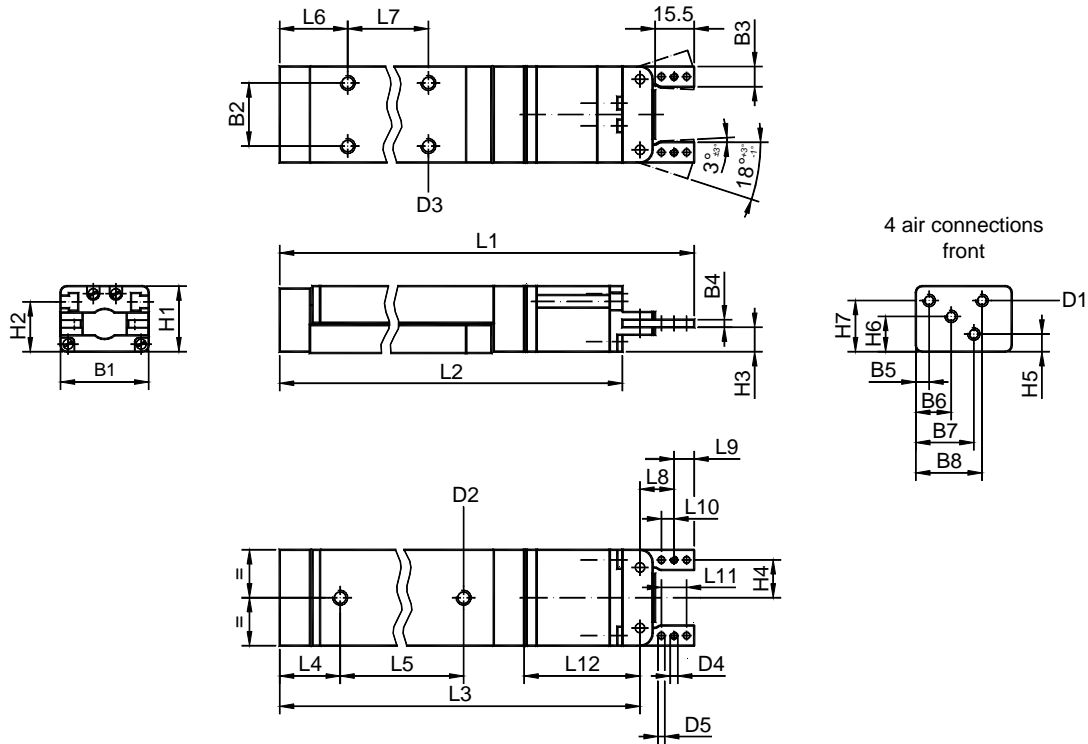
Combination of a double-acting pneumatic cylinder type B with an angular gripper, all air ports located at the front side.

Technical data:

Type	HHGZ 10/10 B-16	HHGZ 10/25 B-16	HHGZ 10/50 B-16
Design type	Angular gripper with stroke		
Stroke length [mm]	10, 25, 50		
Piston diameter [mm]	Stroke cylinder: Ø10; angular gripper: Ø16		
Aperture angle per jaw	20°		
Adm. temperature range [°C]	-10 to +70		
Medium	Filtered, oiled or non-oiled compressed-air (min. fineness 40 µm)		
Compressed-air [bar]	min. 2 ... max. 6		
Working frequency max.	3 Hz (180/min.)		
Mounting position	Any		
Repeatability [mm]	± 0.1		
Max. gripping force at 6 bar and holding point 10 mm [N] (external gripping)	Closing Opening		30 33
Materials	Stroke cylinder: Base body, upper part, mounting plate, cover, piston plate: Al Guides: 100 Cr 6, piston rod: Ck 45 SL f7 Piston: Ms 58 Seals: NBR, cylinder barrel: Ms 63 Angular gripper: Housing: Al, gripper head: Al (hard coated), Gripper: X 210 Cr W 12 (gunmetal finish) Piston, seals: NBR Cylinder barrel: Ms 63, cover: PA 6		
Weight [gramme]	310	360	480

Delivery time on request

Type HHGZ 10/... B-16



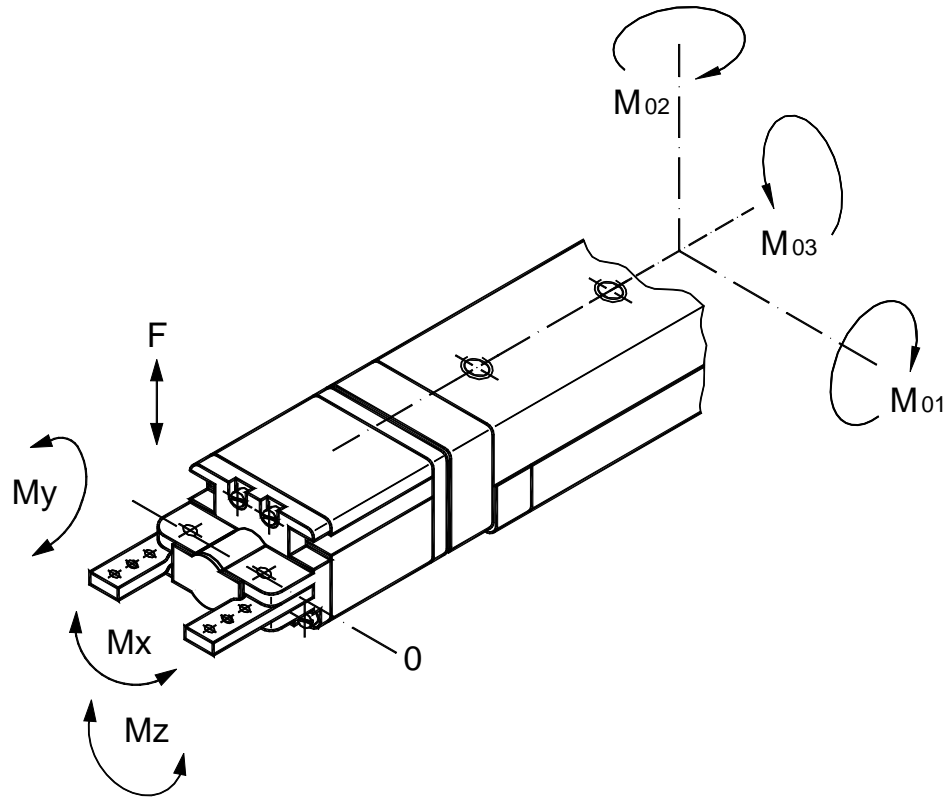
Dimensions:

Type [mm]	B1 [mm]	B2 [mm]	B3 [mm]	B4 [mm]	B5 [mm]	B6 [mm]	B7 [mm]	B8 [mm]	D1 [mm]	D2 [mm]	D3 [mm]	D4 [mm]	D5 [mm]
Tolerance Fit	-0,1	±0,1		-0,03 -0,05									H7
HHGZ 10/10 B-16	35	25	8	3	5,25	14	23	26,25	M 5	M6	M 5	M 3	3
HHGZ 10/25 B-16									5 tief	5 tief	10 tief		
HHGZ 10/50 B-16													

Type [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]	H5 [mm]	H6 [mm]	H7 [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]
Tolerance Fit	±0,1											
HHGZ 10/10 B-16	26	19,95	9,7	13	7	14	20,3	147,5	119	126	25	31
HHGZ 10/25 B-16								162,5	134	141		2 x 23
HHGZ 10/50 B-16								202,5	174	181		2 x 43

Type [mm]	L6 [mm]	L7 [mm]	L8 [mm]	L9 [mm]	L10 [mm]	L11 [mm]	L12 [mm]
Tolerance Fit			±0,05				
HHGZ 10/10 B-16	27	15	13,5	8	5	10	46
HHGZ 10/25 B-16		30					
HHGZ 10/50 B-16		70					

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Load values of gripper jaws:

Load	F	Mx	My	Mz
Static	[N]	[Nm]	[Nm]	[Nm]
HHGZ - 16	23	0,8	0,2	0,4

The forces and torque values specified in the table may not be exceeded. When calculating the torque values the 0-position shown in the figure should be taken into account.

Admissible pneumatic cylinder stress

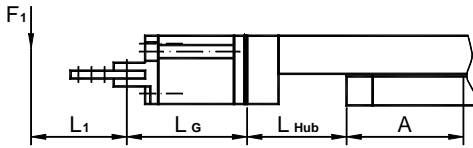
Stroke length [mm]	10		25		50	
Ø / Type	M1/M2 Nm	M3 Nm	M1/M2 Nm	M3 Nm	M1/M2 Nm	M3 Nm
10 - B	1,37	1,04	1,42	1,04	2,12	1,45

Correction factors of pneumatic cylinder

Ø / Type	Stroke length		
	10	25	50
10 - B	[mm]	[mm]	[mm]
A	40,6	48,1	66,9

Gripper

Example of calculation:



Given qty: HHGZ 10/25 B-16 angular gripper (stroke)

Lever arm $L_1 = 20 \text{ mm} = 0,02 \text{ m}$

Gripper arm $L_G = 46 \text{ mm} = 0,046 \text{ m}$

Stroke length $L_{Hub} = 25 \text{ mm} = 0,025 \text{ m}$

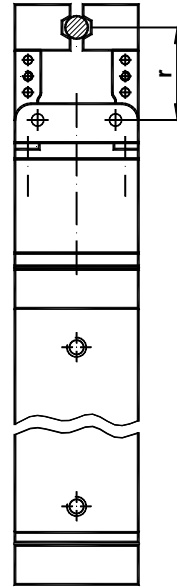
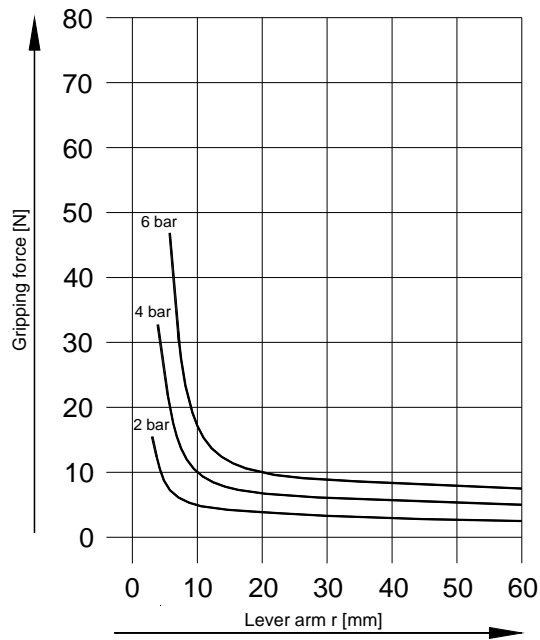
Longitudinal torque $M_1 = 1,42 \text{ Nm}$

Correction factor $A = 48,1 \text{ mm} = 0,0481 \text{ m}$

$$\text{Required qty: } F_1 \leq \frac{M_1}{L_1 + L_G + L_{Hub} + A} = \frac{1,42 \text{ Nm}}{0,02 \text{ m} + 0,046 \text{ m} + 0,025 \text{ m} + 0,0481 \text{ m}} = 10,2 \text{ N}$$

Load diagram for angular gripper with stroke Type HHGZ 10/... B-16

External gripping (close)



Internal gripping (open)

