Radial grippers HGRT, heavy-duty

FESTO

New

Radial grippers HGRT, heavy-duty

Key features

At a glance

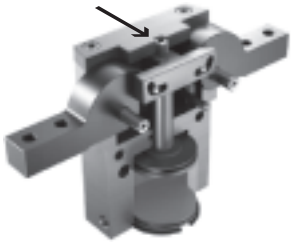
- Sturdy and precise kinematics for maximum torque resistance and long service life
- The virtually backlash-free plain-bearing guide is realised using ground-in gripper jaws
- Systematic use of high-performance and lightweight materials

- The force generated by the linear motion is translated into the gripper jaw movement via a slotted guide system at the piston rod. This also guarantees synchronous movement of the gripper jaws

- The opening angle of the gripper jaws is freely adjustable up to max. 90° per gripper finger. This reduces the cycle time and prevents possible collisions due to the gripper jaws opening too wide

- Can be used as a double-acting or single-acting gripper
- Compression spring for supplementary or retaining gripping forces
- Suitable for external and internal gripping
- Wide range of options for mounting on drives

Flexible stroke limitation
As radial gripper

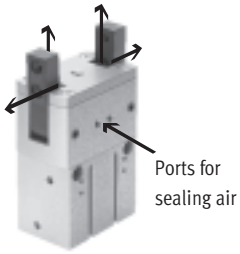


The gripper as delivered features a fixed stop that enables an opening angle of 180°.

As angle gripper with adjustable stroke

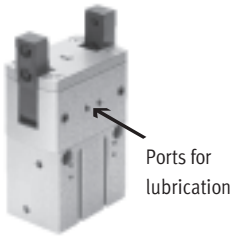
The stroke reducing kit HGRT-HR, which can be ordered as an accessory, enables the opening angle to be reduced by means of an adjustment screw. This provides an easy means of converting the radial gripper into an angle gripper.

Additional ports
For sealing air



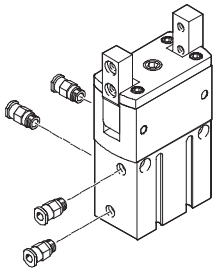
Compressed air flows past the gripper jaw when sealing air (max. 0.5 bar) is connected.
This prevents particles, for example, from entering the gripper jaw guide.

For lubrication

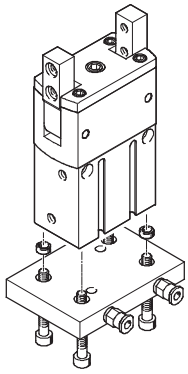


The ports can also be used to re-lubricate the guide.

Supply ports
Direct



Via adapter plate



Note

Gripper selection
sizing software
➔ www.festo.com

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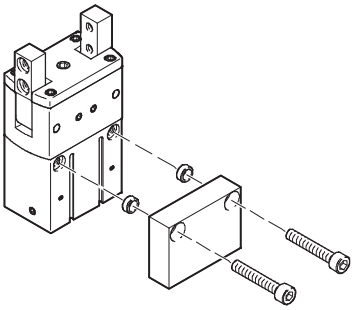
Key features

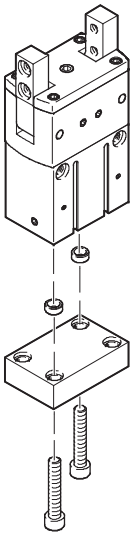
Mounting options

Direct mounting

From the side

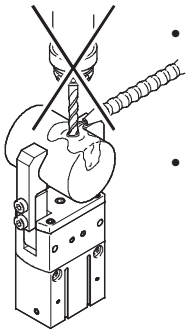


On front face

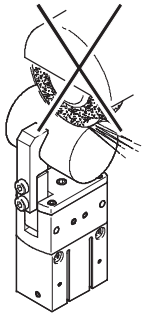


Note

Radial grippers are not designed for the following sample applications:

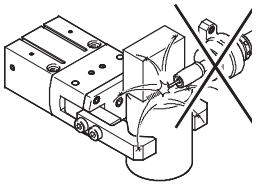


- Machining
- Aggressive media



- Grinding dust

- Welding splashes



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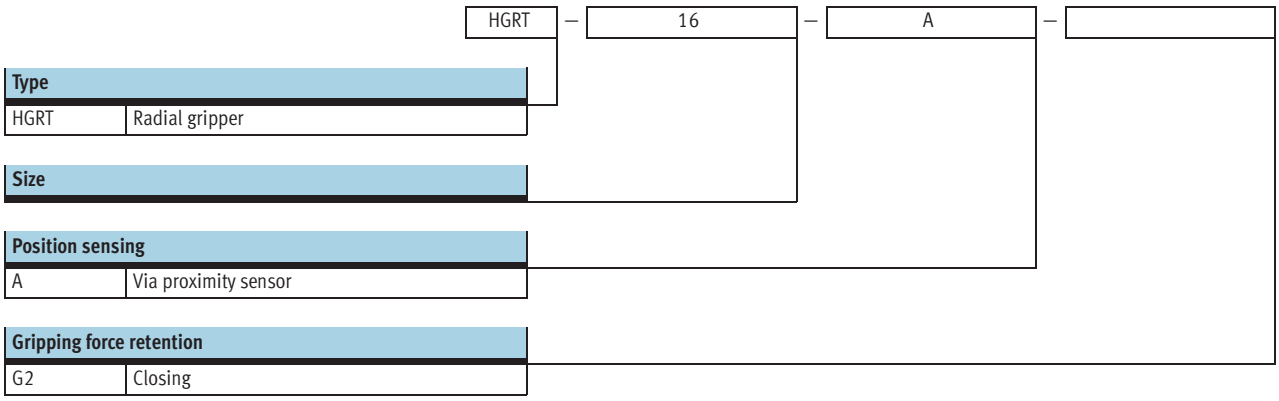
Type codes



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Peripherals overview

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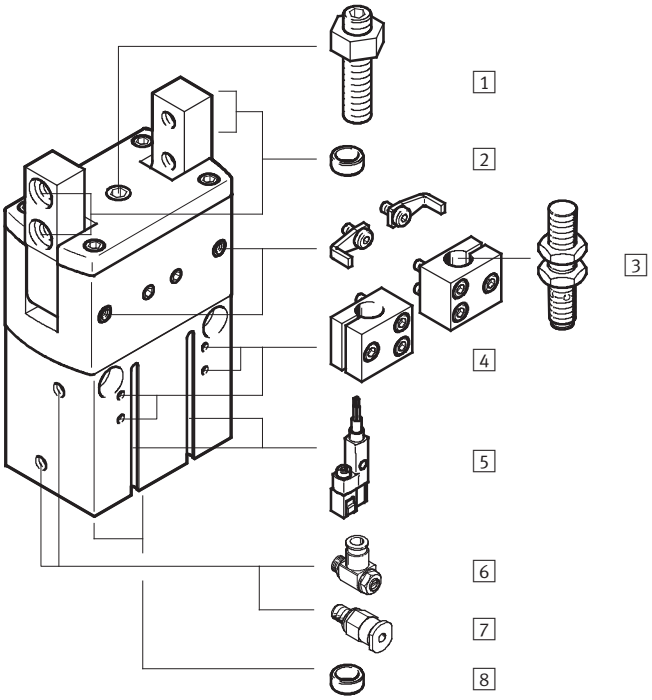
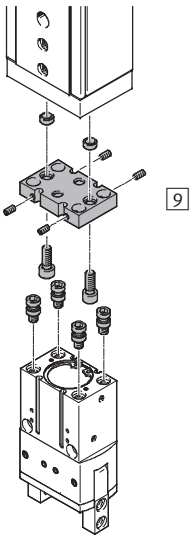
Peripherals overview



System product for handling and assembly technology



Accessories

	Type	Brief description	➔ Page/Internet
1	Stroke reducing kit HGRT-HR	For adjusting the opening angle	19
2	Centring sleeve ZBH	• For centring when attaching gripper fingers • 4 included in the scope of delivery of the gripper	20
3	Proximity sensor SIEN	For sensing the piston position	20
4	Sensor bracket DASI	• For mounting the proximity sensors SIEN on the gripper • The scope of delivery of the sensor bracket includes switch lugs	19
5	Proximity sensor SME/SMT	For sensing the piston position	20
6	One-way flow control valve GRLA	For regulating speed	grla
7	Push-in fitting QS	For connecting compressed air tubing with standard O.D.	quick star
8	Centring sleeve ZBH	For centring when attaching to a drive or plate	20
9	Adapter kit DHAA	Connecting plate between drive and gripper	17

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Technical data

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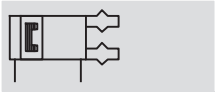
Function
Double-acting
HGRT-...



Function – Variants
Single-acting or with gripping force retention

-N- Size
12 ... 50 mm
-T- Opening angle
180°

Wearing parts kits
➔ 16

General technical data								
Size			16	20	25	32	40	50
Design			Force-guided motion sequence					
Mode of operation			Double-acting					
Gripper function			Radial					
Number of gripper jaws			2					
Max. opening angle		[°]	180					
Pneumatic connection			M3	M5	M5	M5	G1⁄8	G1⁄8
Repetition accuracy[1]		[mm]	≤ 0.02					
Max. interchangeability		[mm]	≤ 0.2					
Max. gripper jaw backlash[2]		[mm]	≤ 0.1					
Max. gripper jaw angular backlash[3]		[°]	≤ 0.1					
Max. permitted working frequency		[Hz]	≤ 3				≤ 2	
Rotational symmetry		[mm]	≤ ∅ 0.2					
Position sensing			Via proximity sensor					
			Via inductive proximity sensor					
Type of mounting			Via female thread and centring sleeve					
Mounting position			Any					
Product weight	–	[g]	130	290	540	840	1,580	3,100
	G2	[g]	150	320	610	940	1,770	3,500

1) End-position drift under constant conditions of use with 100 consecutive strokes in the direction of movement of the gripper jaws
2) Perpendicular to the direction of motion of the gripper jaws
3) Preloaded, backlash-free ball bearing guide

Operating and environmental conditions			
Operating pressure	–	[bar]	3 ... 8
	G2	[bar]	4 ... 8
Operating medium			Filtered compressed air, lubricated or unlubricated
Ambient temperature[1]		[°C]	+5 ... +60
Corrosion resistance class CRC[2]			2

1) Note operating range of proximity sensors
2) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

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Technical data

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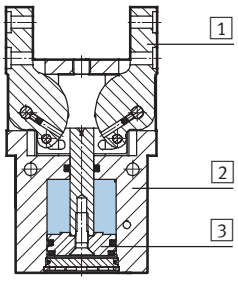
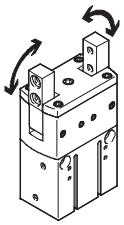
Materials

Sectional view



Radial gripper		
1	Gripper jaw	Hardened steel
2	Housing	Smooth anodised aluminium
3	Piston	Anodised aluminium
–	Seals	Polyurethane, nitrile rubber
–	Note on materials	Free of copper, PTFE and silicone
		RoHS-compliant

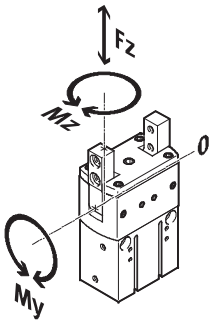
Total gripping torque at 6 bar



The gripping torque is not constant within the opening angle ➔ 12.

Size		16	20	25	32	40	50
Opening	[Ncm]	188	588	1,348	2,024	3,892	8,424
Closing	[Ncm]	158	516	1,208	1,856	3,526	7,754

Static characteristic load values at the gripper jaws



The indicated permissible forces and torques apply to a single gripper jaw. The indicated values include the lever arm, additional applied loads caused by the workpiece or external gripper fingers, as well as forces which occur during movement.
The zero co-ordinate line (gripper jaw guide) must be taken into consideration for the calculation of torques.

Size		16	20	25	32	40	50
Max. permissible force F_z	[N]	50	100	180	280	400	1,200
Max. permissible torque M_y	[Nm]	3.9	6.2	10	13.5	17.5	35
Max. permissible torque M_z	[Nm]	0.3	0.5	1	1.3	1.6	10

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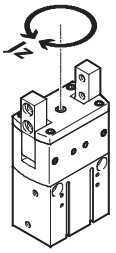
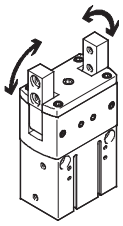
Mass moment of inertia [kgm²x10⁻⁴]



Mass moment of inertia of the radial gripper referred to the central axis, without external gripper fingers, without load.

Size		16	20	25	32	40	50
HGRT	–	0.191	0.74	2.1	4.62	13.87	43.39
	G2	0.21	0.81	2.33	5.03	15.26	47.70

Opening and closing times [ms] at 6 bar



The indicated opening and closing times [ms] have been measured at room temperature and 6 bar operating pressure with vertically mounted gripper and without external gripper fingers.

The grippers must be throttled for greater applied loads. Opening and closing times must then be adjusted accordingly.

Size			16	20	25	32	40	50
Without external gripper fingers								
HGRT	–	Opening	246	280	309	359	283	350
	–	Closing	293	308	343	403	320	403
HGRT	G2	Opening	233	372	443	503	370	490
	G2	Closing	185	295	301	337	270	355

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Technical data

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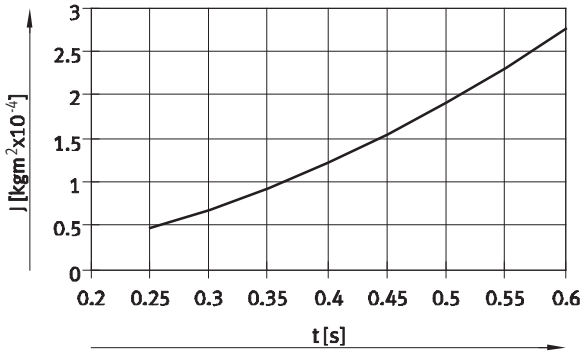
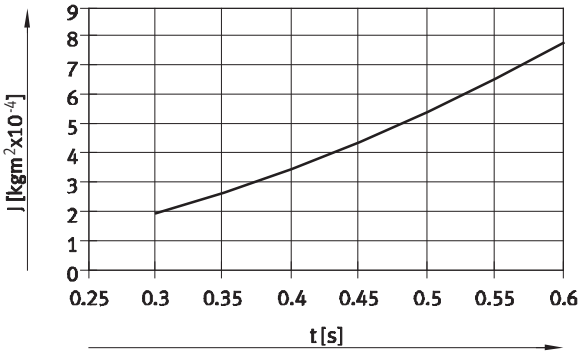
Permissible mass moment of inertia J with external gripper fingers as a function of opening and closing times t at 6 bar

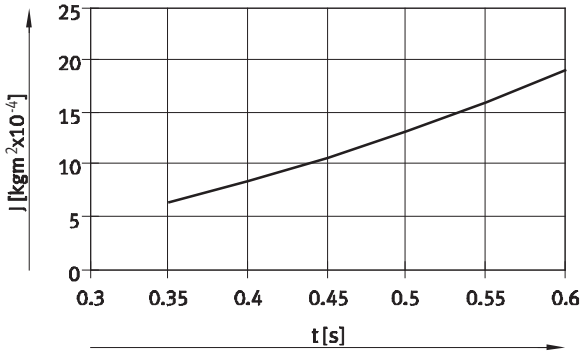
HGRT-16-A



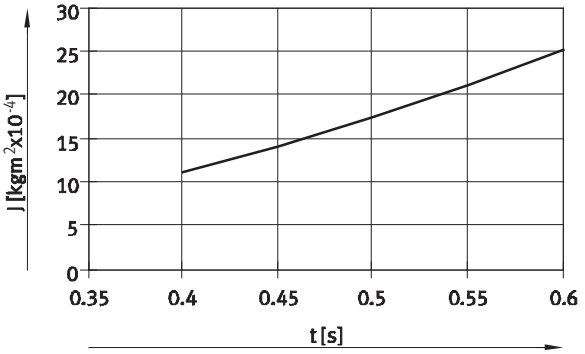
HGRT-20-A



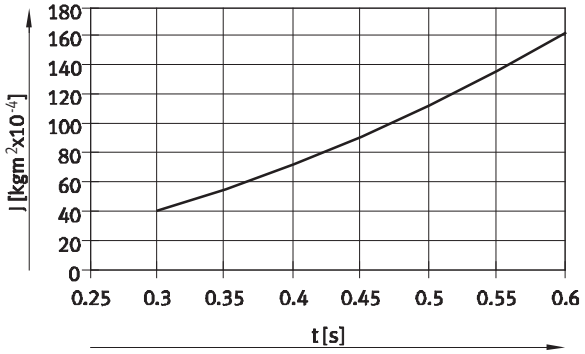
HGRT-25-A



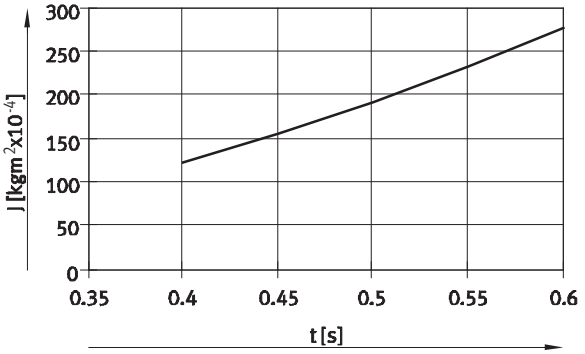
HGRT-32-A



HGRT-40-A



HGRT-50-A



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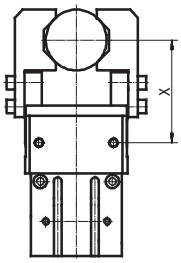
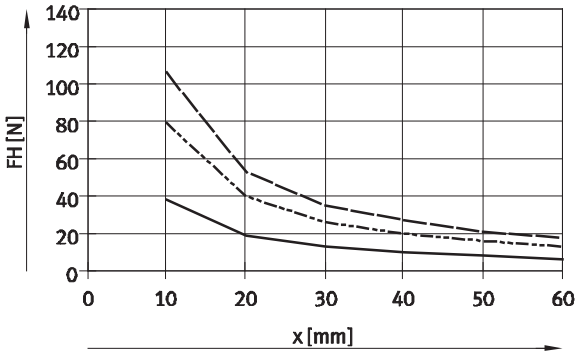
Gripping force F_H per gripper jaw as a function of operating pressure and lever arm x

Gripping forces as a function of the operating pressure and the lever arm can be determined for the size using the following graph.
The gripping torque is not constant within the opening angle ➔ 12.

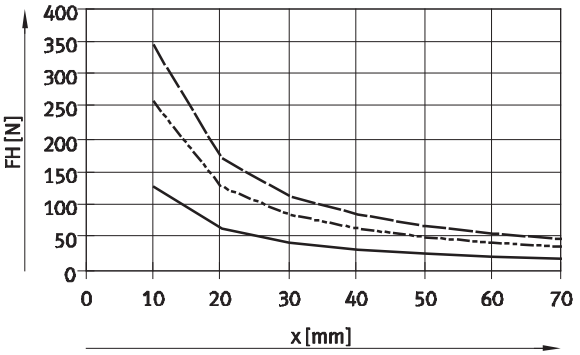


External gripping (closing)

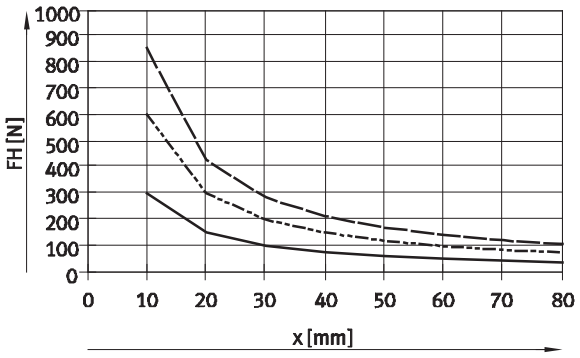
HGRT-16-A



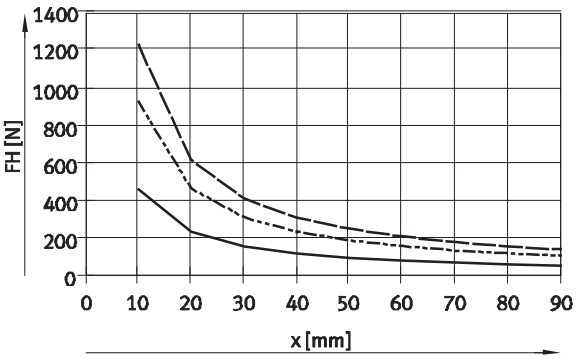
HGRT-20-A



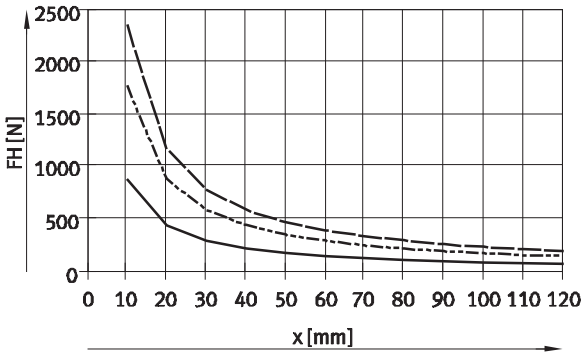
HGRT-25-A



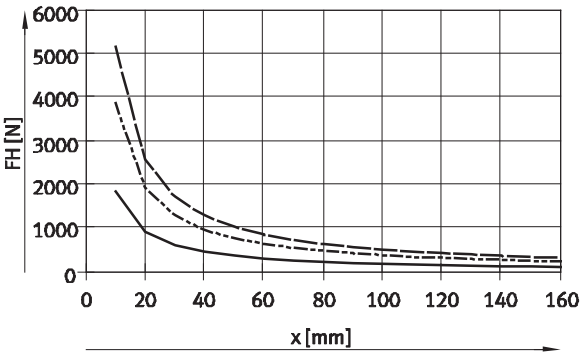
HGRT-32-A



HGRT-40-A



HGRT-50-A



3 bar
6 bar
8 bar

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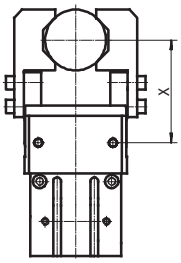
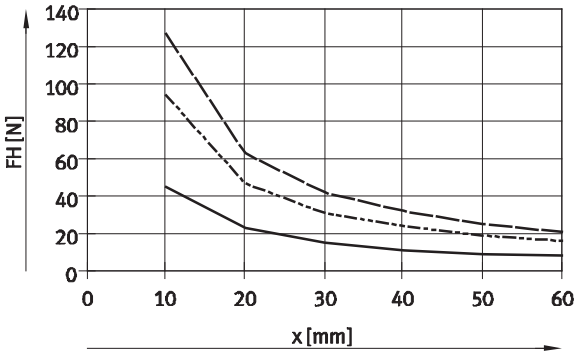
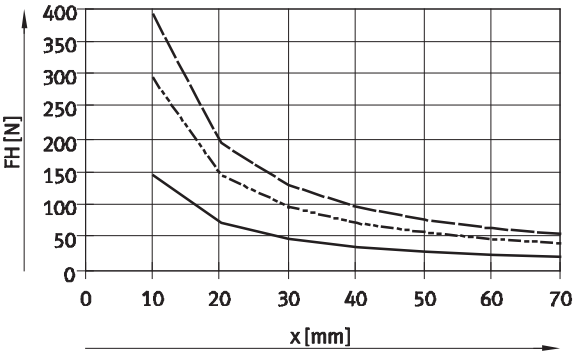


Internal gripping (opening)

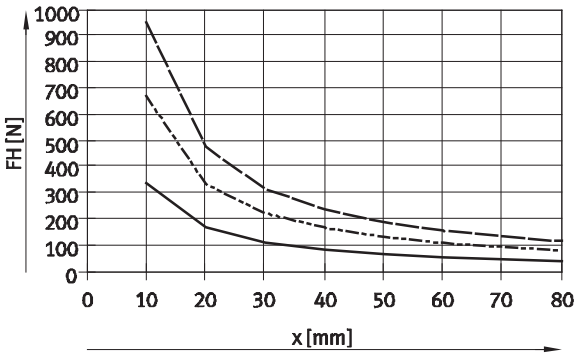
HGRT-16-A



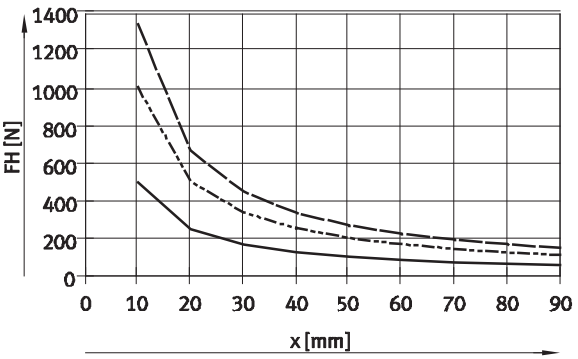
HGRT-20-A



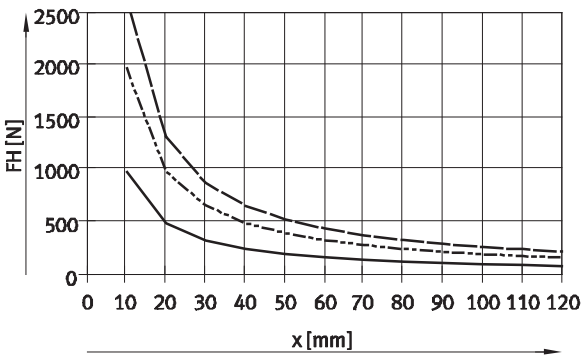
HGRT-25-A



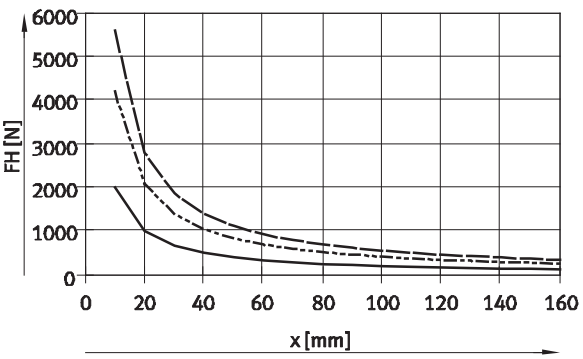
HGRT-32-A



HGRT-40-A



HGRT-50-A



3 bar
6 bar
8 bar

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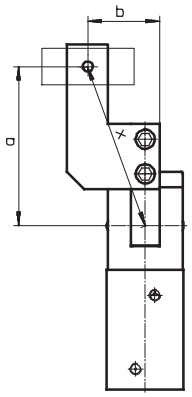
Technical data

Gripping force F_H per gripper jaw at 6 bar as a function of lever arm x and eccentricity a and b

The following formula must be used to calculate the lever arm x with eccentric gripping:

$$x = \sqrt{a^2 + b^2}$$

The gripping force F_H can be read from the graphs (➔ from page 10) using the calculated value x.



Calculation example

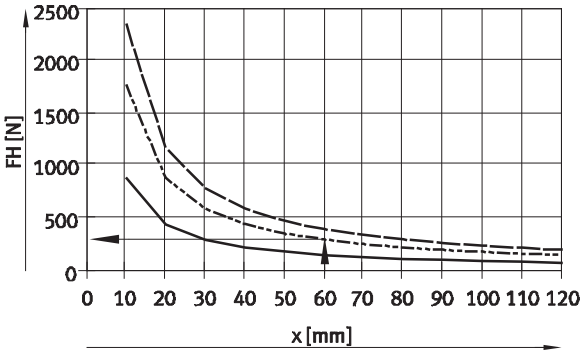
Given:
Distance a = 45 mm
Distance b = 40 mm
To be calculated:
The gripping force at 6 bar,
with an HGRT-40,
used as an external gripper

Procedure:
Calculating the lever arm x

$$x = \sqrt{45^2 + 40^2}$$

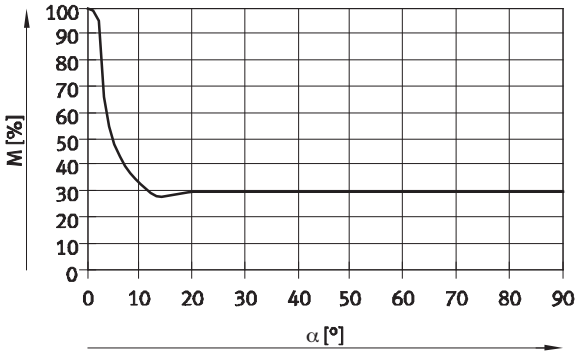
x = 60 mm

The graph (➔ 10) gives a value of F_H = 300 N for the gripping force.



Torque curve M as a function of opening angle α

The drive principle of the gripper jaws means that the torque is not constant within the opening angle. The percentage of torque available in each case can be seen in the graph.
An opening angle of 0° means a parallel gripper jaw position.



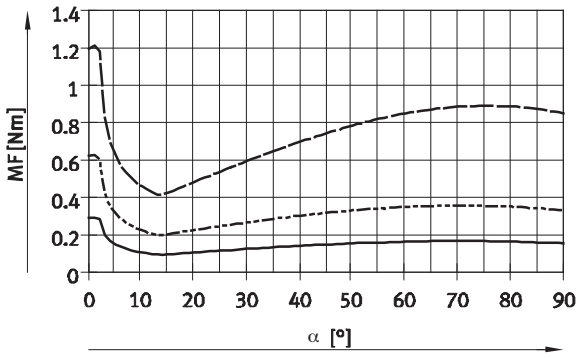
Radial grippers HGRT, heavy-duty

Technical data

FESTO

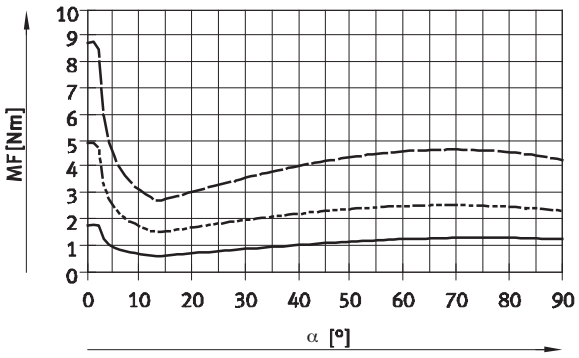
Spring torque M_F as a function of opening angle α

HGRT-16 ... 25



HGRT-16-A-G2
HGRT-20-A-G2
HGRT-25-A-G2

HGRT-32 ... 40



HGRT-32-A-G2
HGRT-40-A-G2
HGRT-50-A-G2

Determining the actual gripping torques $M_{Grtotal}$ for HGRT-...-G2 as a function of the application

The radial gripper with integrated spring, HGRT-...-G2 (closing gripping force retention), can be used as a:

- Single-acting gripper
- Gripper with supplementary gripping force
- Gripper with gripping force retention

To calculate the available gripping torque $M_{Grtotal}$ (per gripper jaw), the data from the graphs for the gripping force F_H (➔ 10/11), the torque curve M (➔ 12) and the spring torque M_F (➔ 13) must be combined accordingly.

$M_{Gr} = F_H * x * M$ [%]

M_{Gr} Gripping torque
F_H Gripping force
x Lever arm
M Torque curve

Application

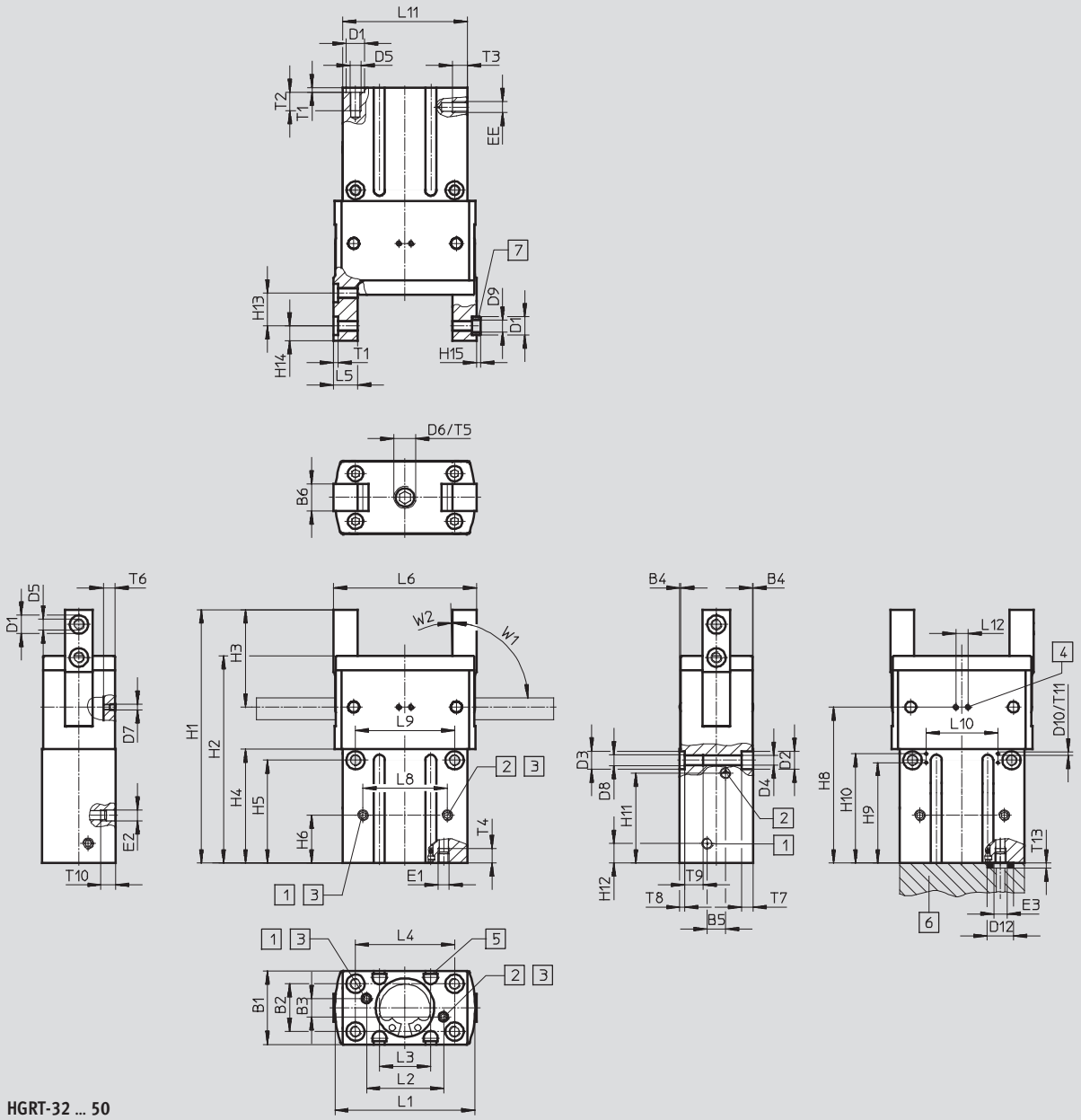
Single-acting	Supplementary gripping force	Gripping force retention
• Gripping with spring force: $M_{Grtotal} = M_F$ • Gripping with pressure force: $M_{Grtotal} = M_{Gr} - M_F$	• Gripping with pressure and spring force: $M_{Grtotal} = M_{Gr} + M_F$	• Gripping with spring force: $M_{Grtotal} = M_F$

Radial grippers HGRT, heavy-duty

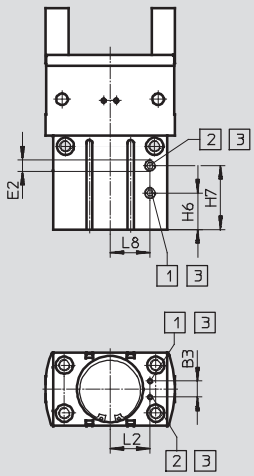
Technical data

FESTO

Dimensions Download CAD Data ➔ **www.festo.com/us/cad**



HGRT-32 ... 50



1 Supply port, opening
2 Supply port, closing
3 Alternative supply port, sealed on delivery
4 Sealing air, sealed on delivery
5 Sensor slot for proximity sensor
6 O-ring for radial gripper
HGRT-16 ... 25: ∅ 3x1.5
HGRT-32 ... 50: ∅ 5x1.5
7 Centring sleeves ZBH
(4 included in the scope of delivery)

Radial grippers HGRT, heavy-duty

Technical data

FESTO

Size	B1	B2[1]	B3	B4	B5	B6	D1 ∅	D2 ∅	D3 ∅	D4 ∅	D5	D6	D7	D8	D9 ∅
[mm]	±0.05		±0.1	+0.05	±0.1	±0.05	H8	+0.1	H8						
16	20	13	5	0.2	5	7.5	5	4.9	5	2.6	M3	M6	–	M3	3.2
20	28	18	6	0.2	6	10	7	7.4	7	4.2	M5	M6	M3	M5	5.3
25	35	23	7	0.2	7	12.5	9	9.4	9	5.1	M6	M8	M5	M6	6.4
32	40	27	10	0.2	10	14.5	9	9.4	9	5.1	M6	M8	M5	M6	6.4
40	50	33	11	0.2	11	18	12	10.4	12	6.8	M8	M8	M5	M8	10.3
50	64	42	14	0.2	14	22.5	15	13.5	15	8.5	M10	M12	M5	M10	12.4

Size	D10	D12	EE	E1	E2	E3	H1		H2		H3	H4		H5	
								-G		-G			-G		-G
[mm]		+0.2					±0.05	±0.05	±0.05	±0.05	±0.1	±0.1	±0.1	±0.1	±0.1
16	–	6	M3	M3	M3	M3	69	77.5	56.5	65	26.5	31	39.5	28	36.5
20	–	6	M5	M3	M3	M3	88.5	97.5	71	80	35.1	39	48	34.5	43.5
25	M3	6	M5	M3	M3	M3	109	120	88	99	42.5	48.3	59.3	42.5	53.5
32	M3	8	M5	M5	M5	M5	125	137	102	114	49	54.7	66.7	49	61
40	M3	8	G1/8	M5	G1/8	M5	154.6	172.6	122	140	63.6	65.5	83.5	58	76
50	M3	8	G1/8	M5	G1/8	M5	193.5	215.5	153	175	79.5	82.4	104.4	73	95

Size	H6		H7		H8		H9		H10		H11		H12	H13[1]
		-G		-G		-G		-G		-G		-G		
[mm]	±0.1	±0.1	±0.1	±0.1			±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	
16	13	13	–	–	–	–	–	–	–	–	24.5	33	5.3	9
20	16	16	–	–	52.5	61.5	–	–	–	–	29	38	6	12
25	19.5	19.5	–	–	65.5	76.5	28	39	36	47	36	47	7.6	14
32	20	20	35.5	46.5	75.5	87.5	34.5	46.5	42.5	54.5	42.4	54.2	8.1	16
40	26	29	45	56.5	90	108	47	65	55	73	48	64.5	9.7	20
50	32	32	56	70	113	135	72	94	80	102	62	80	13.5	25

Size	H14[1]	H15	L1	L2	L3	L4[1]	L5	L6	L8	L9[1]	L10	L11	L12	T1
[mm]		−0.3	±0.05		+0.1		±0.05	±0.5	±0.1		±0.1	±0.1		+0.1
16	4	1.2	38.3	$21_{\pm 0.1}$	14	27	6.5	39	23	27	–	34	–	1.3
20	5	1.4	49.9	$30_{\pm 0.1}$	17	34	9	50.4	30	34	–	44	11	1.6
25	6	1.9	61.1	$39_{\pm 0.1}$	22	42	11	61.2	39	41	33	54	11	2.1
32	7	1.9	72.2	$22.5^{+0.1}$	24	51	12	72.2	22.5	48	41	64	11	2.1
40	9	2.4	90.3	$28^{+0.1}$	32	63	16.5	90.8	28	62	47	80	11	2.6
50	11	2.9	113.2	$35^{+0.1}$	36	80	20	113	35	78	59	100	11	3.1

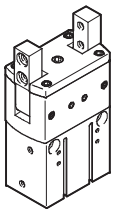
Size	T2		T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	W1	W2
		-G													
[mm]	min.	min.	min.	min.			+0.1	+0.1	min.	min.	min.	min.	+0.1	±2°	+3°
16	5	5	4	4	4	–	3.1	1.3	5	4	–	–	1.2	90	1
20	8.5	8	5	4	5	4.3	4.1	1.6	8	4	–	4	1.2	90	1
25	10	10	5	4.5	6	5.8	5.1	2.1	10	4.5	5.5	–	1.2	90	1
32	9.5	9.5	5	5	7	6.3	5.2	2.1	9.5	5	5.5	–	1.2	90	1
40	14.5	14.5	8.5	5	8	7.8	6.2	2.6	12.5	8.5	5.5	–	1.2	90	1
50	15	15	8.5	5	10	10.55	8.1	3.1	15	8.5	5.5	–	1.2	90	1

1) Tolerance for centring hole ±0.02 mm
Tolerance for thread ±0.1 mm

Radial grippers HGRT, heavy-duty

Technical data

FESTO

Ordering data					
	Size [mm]	Double-acting without compression spring		Single-acting or with gripping force retention, closing	
		Part No.	Type	Part No.	Type
	16	**563904**	**HGRT-16-A**	**563905**	**HGRT-16-A-G2**
	20	**563906**	**HGRT-20-A**	**563907**	**HGRT-20-A-G2**
	25	**563908**	**HGRT-25-A**	**563909**	**HGRT-25-A-G2**
	32	**563910**	**HGRT-32-A**	**563911**	**HGRT-32-A-G2**
	40	**563912**	**HGRT-40-A**	**563913**	**HGRT-40-A-G2**
	50	**563914**	**HGRT-50-A**	**563915**	**HGRT-50-A-G2**

Ordering data – Wearing parts kits		
Size [mm]	Part No.	Type
16	**1459481**	**HGRT-16**
20	**1459482**	**HGRT-20**
25	**1459483**	**HGRT-25**
32	**1459484**	**HGRT-32**
40	**1459485**	**HGRT-40**
50	**1459486**	**HGRT-50**

Radial grippers HGRT

Accessories

FESTO

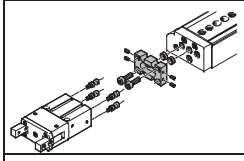
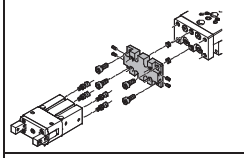
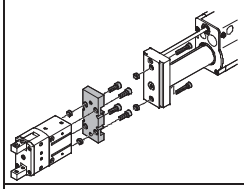
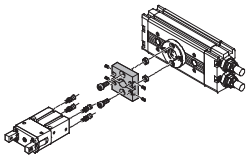
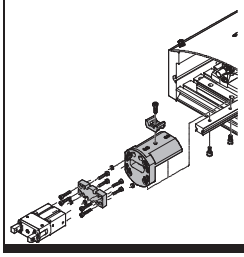
Adapter kit DHAA

Material:
Wrought aluminium alloy
Free of copper and PTFE
RoHS-compliant

Note

The kit includes the individual mounting interface as well as the necessary mounting material.

Permissible drive/gripper combinations with adapter kit — Download CAD Data ➔ **www.festo.com/us/cad**

Combination	Drive Size	Gripper Size	Mounting option		Adapter kit CRC[1]	Part No.	Type
DGSL/HGRT	DGSL	HGRT			DHAA		
	8, 10	16	■	■	2	**1273902**	**DHAA-G-G6-8-B11-16**
	12, 16	16	■	■		**1467524**	**DHAA-G-G6-12-B11-16**
	12, 16	20	■	■		**1278364**	**DHAA-G-G6-12-B11-20**
	20, 25	25	■	■		**1468307**	**DHAA-G-G6-20-B11-25**
	25	32	■	■		**1280494**	**DHAA-G-G6-25-B11-32**
SLT/HGRT	SLT	HGRT			DHAA		
	10	16	■	–	2	**1274402**	**DHAA-G-G3-10-B11-16**
	16	20	■	–		**1278980**	**DHAA-G-G3-16-B11-20**
	20	25	■	–		**1279954**	**DHAA-G-G3-20-B11-25**
	25	32	■	–		**1280734**	**DHAA-G-G3-25-B11-32**
	25	40	■	–		**1281448**	**DHAA-G-G3-25-B11-40**
HMP/HGRT	HMP	HGRT			DHAA		
	16	25	–	■	2	**1279797**	**DHAA-G-H2-16-B11-25**
	20	32	–	■		**1280562**	**DHAA-G-H2-20-B11-32**
	25	32	–	■		**1471637**	**DHAA-G-H2-25-B11-32**
	20	40	–	■		**1281049**	**DHAA-G-H2-20-B11-40**
	25	40	–	■		**1472239**	**DHAA-G-H2-25-B11-40**
DRQD/HGRT	DRQD	HGRT			DHAA		
	16	16	■	■	2	**1273999**	**DHAA-G-Q5-16-B11-16**
	20	20	■	■		**1465263**	**DHAA-G-Q5-20-B11-20**
	25, 32	25	■	■		**1279439**	**DHAA-G-Q5-25-B11-25**
	25, 32[2]	25	■	■		**1468974**	**DHAA-G-Q5-25-E-B11-25**
	25, 32	32	■	■		**1468949**	**DHAA-G-Q5-25-B11-32**
	25, 32[2]	32	■	■		**1468980**	**DHAA-G-Q5-25-E-B11-32**
	32	40	■	■		**1280996**	**DHAA-G-Q5-32-B11-40**
HSP/HGRT	HSP	HGRT			DHAA		
	16	16	■	–	2	**1274347**	**DHAA-G-H4-16-B11-16**
						540882	**HAPG-71-B**
	25	16	■	–		**1274347**	**DHAA-G-H4-16-B11-16**
						540883	**HAPG-72-B**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

2) In combination with DRQD-...-E444 (flanged shaft with energy through-feed).

Radial grippers HGRT

Accessories

FESTO

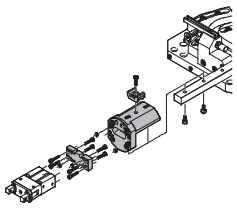
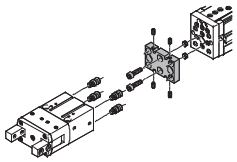
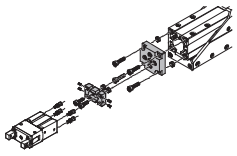
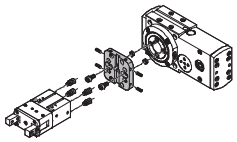
Adapter kit DHAA

Material:
Wrought aluminium alloy
Free of copper and PTFE
RoHS-compliant

Note

The kit includes the individual mounting interface as well as the necessary mounting material.

Permissible drive/gripper combinations with adapter kit Download CAD Data ➔ **www.festo.com/us/cad**

Combination	Drive Size	Gripper Size	Mounting option		Adapter kit CRC[1]	Part No.	Type
HSW/HGRT	HSW	HGRT			DHAA		
	12, 16	16	■	–	2	**1274347**	**DHAA-G-H4-16-B11-16**
						540882	**HAPG-71-B**
EGSL/HGRT	EGSL	HGRT			DHAA		
	45, 55	20	■	■	2	**1278364**	**DHAA-G-G6-12-B11-20**
	45, 55	25	■	■		**1279418**	**DHAA-G-E8-45-B11-25**
	75	25	■	■		**1468307**	**DHAA-G-G6-20-B11-25**
	75	32	■	■		**1280494**	**DHAA-G-G6-25-B11-32**
EGSA/HGRT	EGSA	HGRT			DHAA		
	50	16	■	■	2	**1467524**	**DHAA-G-G6-12-B11-16**
						560017	**HMSV-61**
	50	20	■	■		**1278364**	**DHAA-G-G6-12-B11-20**
						560017	**HMSV-61**
	50	25	■	■		**1468307**	**DHAA-G-G6-20-B11-25**
						560017	**HMSV-61**
	60	25	■	■		**1468307**	**DHAA-G-G6-20-B11-25**
						560018	**HMSV-62**
	60	32	■	■		**1280494**	**DHAA-G-G6-25-B11-32**
						560018	**HMSV-62**
ERMB/HGRT	ERMB	HGRT			DHAA		
	20	20	■	■	2	**1465263**	**DHAA-G-Q5-20-B11-20**
	25, 32	25	■	■		**1279439**	**DHAA-G-Q5-25-B11-25**
	25, 32	32	■	■		**1468949**	**DHAA-G-Q5-25-B11-32**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Radial grippers HGRT

Accessories

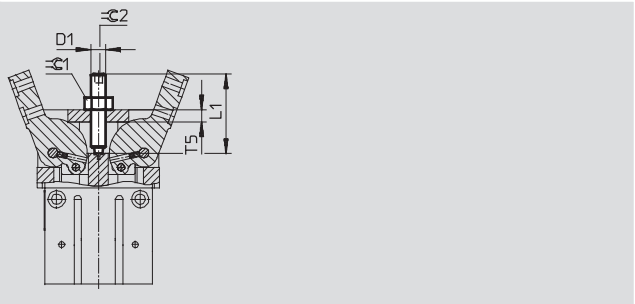
FESTO

Stroke reducing kit HGRT-HR

Materials:

Screw: Steel

Lock nut: Case-hardened steel



Dimensions and ordering data

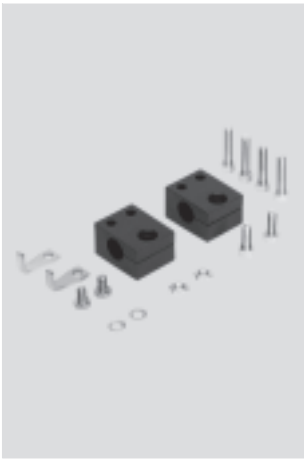
For size [mm]	D1	L1	T5	⌀1	⌀2	Adjustable end-position range [mm]	Weight [g]	Part No.	Type
16	M6	26	4	10	3	20	7	**564296**	**HGRT-HR-16**
20	M6	31	5	10	3	25	9	**564297**	**HGRT-HR-20**
25	M8	36	6	13	4	30	18	**564298**	**HGRT-HR-25**
32	M8	41	7	13	4	35	20	**564299**	**HGRT-HR-32**
40	M8	51	8	13	4	45	24	**564300**	**HGRT-HR-40**
50	M12	61	10	19	6	50	66	**564301**	**HGRT-HR-50**

Sensor bracket DASI

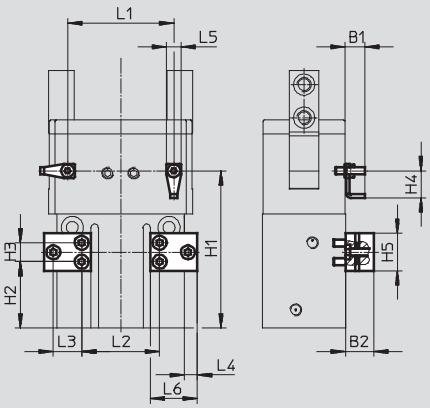
Material:

DASI-B10-25-S8: Polyamide

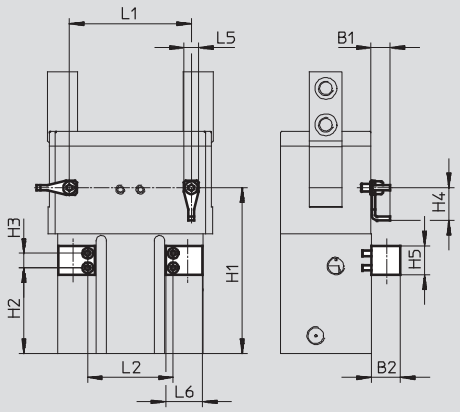
DASI-B10-40-S12: Aluminium



DASI-B10-25-S8



DASI-B10-40-S12



Dimensions and ordering data

For type	H1 ±0.02	H2 ±0.1	L1 ±0.01	L2
HGRT-25-A	66.5	28	45	33
HGRT-25-A-G2	77.5	39	45	33
HGRT-32-A	76	34.5	53	64
HGRT-32-A-G2	88	46.5	53	64
HGRT-40-A	91	47	67	47
HGRT-40-A-G2	109	65	67	47
HGRT-50-A	114	72	84	59
HGRT-50-A-G2	136	94	84	59

For size [mm]	B1	B2	H3 ±0.1	H4	H5	L3 ±0.1	L4	L5	L6 ±0.2	Weight [g]	Part No.	Type
25, 32	8.45	12	8	11.5	16	12	5.5	6	20	39	**564311**	**DASI-B10-25-S8**
40, 50	10.5	16	8	18	16	–	–	8	20	18	**564312**	**DASI-B10-40-S12**

Radial grippers HGRT

Accessories

FESTO

Ordering data – Centring sleeves — Technical data ➔ Internet: zbh

	For size [mm]	Part No.	Type	PU[1]
	16	**189652**	**ZBH-5**	10
	20	**186717**	**ZBH-7**	
	25, 32	**150927**	**ZBH-9**	
	40	**189653**	**ZBH-12**	
	50	**191409**	**ZBH-15**	

1) Packaging unit

Proximity sensor for size 16 … 32

Ordering data – Proximity sensors for C-slot, magneto-resistive — Technical data ➔ Internet: smt

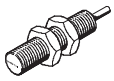
	Type of mounting	Switching output	Electrical connection, connection direction	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot lengthwise	PNP	Cable, 3-wire, lateral	2.5	**547862**	**SMT-10G-PS-24V-E-2,5Q-OE**
			Plug M8x1, 3-pin, lateral	0.3	**547863**	**SMT-10G-PS-24V-E-0,3Q-M8D**

Proximity sensor for size 40 … 50

Ordering data – Proximity sensors for T-slot, magneto-resistive — Technical data ➔ Internet: smt

	Type of mounting	Switching output	Electrical connection, connection direction	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot lengthwise	PNP	Cable, 3-wire, lateral	2.5	**547859**	**SMT-8G-PS-24V-E-2,5Q-OE**
			Plug M8x1, 3-pin, lateral	0.3	**547860**	**SMT-8G-PS-24V-E-0,3Q-M8D**

Ordering data – Proximity sensors, inductive, for sensor bracket DASI — Technical data ➔ Internet: sien

	Thread	Contact	Connection	Part No.	Type
	For DASI-B10-25-S8				
	M8	N/O contact	Cable, 2.5 m	**150386**	**SIEN-M8B-PS-K-L**
			Plug	**150387**	**SIEN-M8B-PS-S-L**
	For DASI-B10-40-S12				
	M12	N/O contact	Cable, 2.5 m	**150402**	**SIEN-M12B-PS-K-L**
			Plug	**150403**	**SIEN-M12B-PS-S-L**

Ordering data – Connecting cables — Technical data ➔ Internet: nebu

	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	**541333**	**NEBU-M8G3-K-2.5-LE3**
			5	**541334**	**NEBU-M8G3-K-5-LE3**
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	**541338**	**NEBU-M8W3-K-2.5-LE3**
			5	**541341**	**NEBU-M8W3-K-5-LE3**

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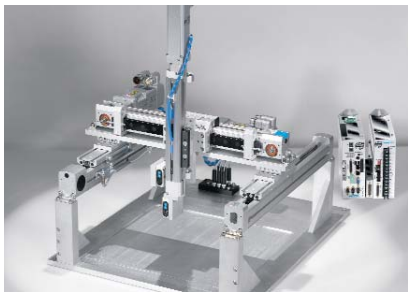

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Festo North America

Festo Regional Contact Center

5300 Explorer Drive
Mississauga, Ontario L4W 5G4
Canada

USA Customers:

For ordering assistance,
Call: 1.800.99.FESTO (1.800.993.3786)
Fax: 1.800.96.FESTO (1.800.963.3786)
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Canadian Customers:

Call: 1.877.GO.FESTO (1.877.463.3786)
Fax: 1.877.FX.FESTO (1.877.393.3786)
Email: festo.canada@ca.festo.com

USA Headquarters

Festo Corporation
395 Moreland Road
P.O. Box 18023
Hauppauge, NY 11788, USA
www.festo.com/us

USA Sales Offices

Appleton
North 922 Tower View Drive, Suite N
Greenville, WI 54942, USA

Boston
120 Presidential Way, Suite 330
Woburn, MA 01801, USA

Chicago
1441 East Business Center Drive
Mt. Prospect, IL 60056, USA

Dallas
1825 Lakeway Drive, Suite 600
Lewisville, TX 75057, USA

Detroit – Automotive Engineering Center
2601 Cambridge Court, Suite 320
Auburn Hills, MI 48326, USA

New York
395 Moreland Road
Hauppauge, NY 11788, USA

Silicon Valley
4935 Southfront Road, Suite F
Livermore, CA 94550, USA

United States

USA Headquarters, East: Festo Corp., 395 Moreland Road, Hauppauge, NY 11788
Phone: 1.631.435.0800; Fax: 1.631.435.8026;
Email: info@festo-usa.com **www.festo.com/us**

Canada

Headquarters: Festo Inc., 5300 Explorer Drive, Mississauga, Ontario L4W 5G4
Phone: 1.905.624.9000; Fax: 1.905.624.9001;
Email: festo.canada@ca.festo.com **www.festo.ca**

Mexico

Headquarters: Festo Pneumatic, S.A., Av. Ceylán 3, Col. Tequesquinahuac,
54020 Tlalnepantla, Edo. de México
Phone: 011 52 [55] 53 21 66 00; Fax: 011 52 [55] 53 21 66 65;
Email: festo.mexico@mx.festo.com **www.festo.com/mx**

Central USA
Festo Corporation
1441 East Business
Center Drive
Mt. Prospect, IL 60056, USA
Phone: 1.847.759.2600
Fax: 1.847.768.9480

Western USA
Festo Corporation
4935 Southfront Road,
Suite F
Livermore, CA 94550, USA
Phone: 1.925.371.1099
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