

The HMRB Series

FEATURES

HMRB Belt-Driven Actuators
for High Speed, High Payload Positioning Applications

Belt Driven
Tables

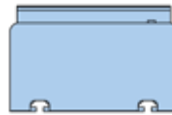
- High dynamic control for precision positioning
- High payload capacity
- High speed operation
- Easy installation
- Highly configurable design
- Ideal in multi axis applications



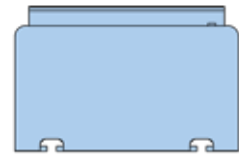
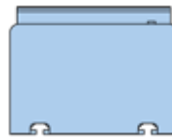
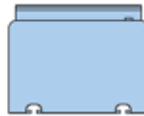
Features

- 5 different frame sizes to choose from
- Basic or reinforced profiles for supported or unsupported applications
- Tandem carriage with second carriage for higher load capabilities
- Bi-parting carriage for centering applications
- Long available strokes
- Complete motor and drive packages
- Ambient operating temperature range -20°C to +80°C
- IP 54 Rating

Standard
Profile



Reinforced
Profile



HMRB08

HMRB11

HMRB15

HMRB18

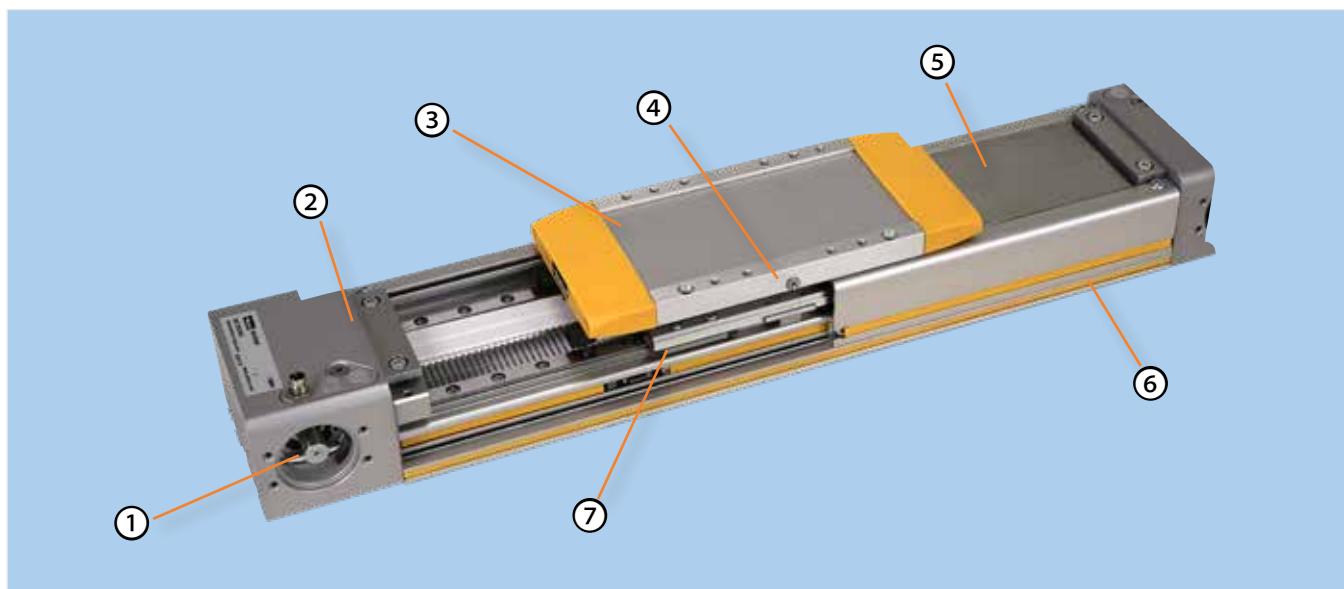
HMRB24

	HMRB08	HMRB11	HMRB15	HMRB18	HMRB24
Maximum Travel (mm)	3000	4000	5800	5800	5800
Maximum Payload (N)	1800	4450	8800	16200	26600
Maximum Acceleration (m/sec ²)	10	10	10	10	10

The HMRB is the belt driven version in the HMR family. The steel reinforced timing belt used on this positioner features a round tooth profile for greater energy

efficiency and smoother overall motion, as compared to traditional belt profiles. The HMRB is ideal for long travel lengths and high speed dynamic positioning.

The compact design allows integration of the HMRB in any machine layout, providing superior dynamic performance with minimal space utilization.



- ① **Drive shaft**
Designed to pair with a large assortment of motor and gearhead options
- ② **Steel reinforced timing belt**
High thrust force transmission and long life
- ③ **Carriage assembly**
Low profile, high strength aluminum construction with threaded and pinning mounting options
- ④ **Lubrication ports**
Easy access maintenance (1x per side) allows for single point lubrication for all bearing trucks and the ball nut at any location along travel
- ⑤ **Corrosion resistant steel sealing band**
Magnetically fastened to the actuator body and provides IP54 sealing
- ⑥ **Slotted profile**
Dovetail grooves for actuator & sensor mounting
- ⑦ **Recirculating profile rail bearing**
Two rails and four bearing trucks total for maximized payload capacity

Profile Options

Basic profile - for applications where actuator is fully supported, this option provides a lower profile option.



Reinforced profile - for long unsupported spans (i.e. gantry style applications).

Carriage Options

Standard carriage or tandem carriage for higher load capabilities



Cover Options

IP20 rated without protective cover, or IP54 rated protective cover with seal strip cover assemblies—ideal for harsh environments



Motor Mounting Options

The HMRB belt driven positioner is designed to optimize flexibility in machine design. As such the drive and motor mounting can be positioned at any one of four different positions around the axis of motion. This option is configurable through the part number.



Multi-axis Systems

A wide range of adapter plates and intermediate drive shafts simplifies engineering and installation.

**Please consult factory for your individual system design.*



Other Options & Accessories

HMRB actuators can be outfitted with a variety of different options.

In addition to the standard configurable options highlighted in Options & Accessories, a list of commonly used non-standard options are highlighted below. Please contact us for assistance in choosing any of these or any other unique configurations.

- **Dual axis with link shaft**
- **Purge ports**
- **Parallel motor mount**
- **Longer than cataloged stroke**
- **...and many more**



SPECIFICATIONS

SPECIFICATIONS

Parker Hannifin's High Moment Rodless (HMR) Series electric linear actuator is one of the most user friendly and versatile actuator lines on the market today. Guided by two square rail bearings, the HMR has enormous moment and payload capacity bundled in a low-profile, yet sleek package. With five different frame sizes, two different drive train options, multiple mounting, carriage and sensor options, and an IP54 protective cover option—along with a multitude of other customizable features—the HMR was truly designed with flexibility in mind.



Common Specifications

Actuator Size			HMRB08				HMRB11			
Belt drive orientation			090°/270°		000°/180°		090°/270°		000°/180°	
Travel Distance per Revolution	S _{lin}	mm	66				90			
Pulley Diameter		mm	21.01				28.65			
Linear Speed (Max)	v _{max}	m/s	2							
Acceleration (Max)	a _{max}	m/s ²	30							
Repeatability (unidirectional)		μm	± 50							
Order Stroke (Max) ⁽¹⁾		mm	3000				4000			
Thrust Force (Max)	F _{Amax}	N	295				630			
		lbs	66				142			
Thrust force (F _A)- corresponding to velocity (v)	F _A (v<1 m/s)	N	295				630			
	F _A (v<2 m/s)	N	295				550			
	F _A (v<3 m/s)	N	-				-			
	F _A (v<4 m/s)	N	-				-			
	F _A (v<5 m/s)	N	-				-			
Thrust force (F _A)- corresponding to order stroke (OS)	F _A (OS<1 m)	N	250				630			
	F _A (OS<2 m)	N	140				550			
	F _A (OS<3 m)	N	100				385			
	F _A (OS<4 m)	N	-				295			
	F _A (OS<5 m)	N	-				-			
	F _A (OS<6 m)	N	-				-			
Torque on Drive Shaft (Max)	M _{Amax}	Nm	3.1				9.0			
		in-lb	27.4				80.0			
Torque ⁽²⁾ — No Load	M ₀	Nm	1.0				1.2			
		in-lb	8.9				10.6			
Inertia										
@ Zero Stroke	J ₀	kgmm ²	14				52			
Per Meter of Stroke	J _{OS}	kgmm ² /m	10				41			
Per 1 kg Moved Mass	J _m	kgmm ² /kg	110				205			
Unit Weight (by Order Code Option)			B	C	R	S	B	C	R	S
@ Zero Stroke	m ₀	kg	2.4	2.7	3.1	3.4	4.4	4.8	6.1	6.5
Per Meter of Stroke	m _{OS}	kg/m	3.0	4.0	4.0	5.0	5.4	6.4	7.6	8.6
Carriage (by Order Code Option) ⁽³⁾	m _C	kg	0		1		0		1	
			0.9		0.7		1.7		1.3	
Ambient Temperature Range					-20 to +80					
IP Rating ⁽⁴⁾					IP 54					

Note- For force and moment load specifications, see HMRB Loading Conditions

⁽¹⁾ Longer lengths available - please consult factory

⁽²⁾ For tandem and bi-parting options, double the listed values

⁽³⁾ For tandem and bi-parting carriage weight add mass from column '0' and '1'

⁽⁴⁾ For unit with protective covers - IP20 without covers

Common Specifications

Actuator Size			HMRB15				HMRB18				HMRB24			
Belt drive orientation			090°/270°		000°/180°		090°/270°		000°/180°		090°/270°		000°/180°	
Travel Distance per Revolution	S _{lin}	mm	100		125		130		150		160		224	
Pulley Diameter		mm	31.83		39.79		41.38		47.74		50.93		71.30	
Linear Speed (Max)	v _{max}	m/s	5											
Acceleration (Max)	a _{max}	m/s ²	50											
Repeatability (unidirectional)		μm	± 50											
Order Stroke (Max) ⁽¹⁾		mm	5800											
Thrust Force (Max)	F _{Amax}	N	1050		630		1300		1000		4000		3750	
		lbs	236		142		292		225		899		843	
Thrust force (F _A)- corresponding to velocity (v)	F _A (v<1 m/s)	N	1050		630		1300		1000		4000		3750	
	F _A (v<2 m/s)	N	990		630		1300		1000		4000		3380	
	F _A (v<3 m/s)	N	930		630		1300		1000		3650		3140	
	F _A (v<4 m/s)	N	890		630		1300		1000		3370		2950	
	F _A (v<5 m/s)	N	840		630		1300		1000		3200		2800	
Thrust force (F _A)- corresponding to order stroke (OS)	F _A (OS<1 m)	N	1050		630		1300		1000		4000		3750	
	F _A (OS<2 m)	N	820		490		1000		775		4000		3360	
	F _A (OS<3 m)	N	570		340		710		550		3370		2440	
	F _A (OS<4 m)	N	445		265		550		430		2860		1880	
	F _A (OS<5 m)	N	365		215		450		350		2350		1540	
	F _A (OS<6 m)	N	305		185		380		295		2000		1300	
Torque on Drive Shaft (Max)	M _{Amax}	Nm	17.0		13.0		27.0		24.0		101.0		134.0	
		in-lb	150.5		115.1		239.0		212.4		894.0		1186.0	
Torque ⁽²⁾ — No Load	M ₀	Nm	1.2				2.0				5.5			
		in-lb	10.6				17.7				48.7			
Inertia														
@ Zero Stroke	J ₀	kgmm ²	102		145		297		394		1178		2758	
Per Meter of Stroke	J _{OS}	kgmm ² /m	79				134		222		689		900	
Per 1 kg Moved Mass	J _m	kgmm ² /kg	253		396		428		570		649		1271	
Unit Weight (by Order Code Option)			B	C	R	S	B	C	R	S	B	C	R	S
@ Zero Stroke	m ₀	kg	6.7	7.5	9.4	10.3	11.6	12.8	15.6	16.7	21.5	23.1	28.0	29.6
Per Meter of Stroke	m _{OS}	kg/m	8.2	9.9	11.5	13.3	12.8	15.1	16.5	18.7	21.6	24.4	26.7	29.5
Carriage (by Order Code Option) ⁽³⁾	m _C	kg	0		1		0		1		0		1	
			2.7		1.9		4.6		3.7		9.0		7.2	
Ambient Temperature Range			°C		-20 to +80									
IP Rating ⁽⁴⁾			IP 54											

Note- For force and moment load specifications, see HMRB Loading Conditions

⁽¹⁾ Longer lengths available - please consult factory

⁽²⁾ For tandem and bi-parting options, double the listed values

⁽³⁾ For tandem and bi-parting carriage weight add mass from column '0' and '1'

⁽⁴⁾ For unit with protective covers - IP20 without covers

Loading Specifications (Max)

Life and loading characteristics shown for both belt and screw driven units.

Rated Life			HMR08	HMR11
2540 km	F_Y / F_Z	N (lb)	1,800 (405)	4,450 (1,001)
2540 km Tandem	F_Y / F_Z	N (lb)	2,700 (608)	6,675 (1,508)
8000 km	F_Y / F_Z	N (lb)	1,250 (281)	3,000 (675)
8000 km Tandem	F_Y / F_Z	N (lb)	1,875 (422)	4,500 (1,013)
2540 km	M_X	Nm (in-lb)	45 (398)	155 (1,372)
	M_Y	Nm (in-lb)	80 (708)	200 (1,770)
	M_Z	Nm (in-lb)	80 (708)	200 (1,770)
2540 km Tandem	M_X	Nm (in-lb)	68 (602)	235 (2,080)
	M_Y	Nm (in-lb)	120 (1,062)	300 (2,655)
	M_Z	Nm (in-lb)	120 (1,062)	300 (2,655)
8000 km	M_X	Nm (in-lb)	30 (266)	105 (929)
	M_Y	Nm (in-lb)	55 (487)	135 (1,195)
	M_Z	Nm (in-lb)	55 (487)	135 (1,195)
8000 km Tandem	M_X	Nm (in-lb)	45 (398)	160 (1,416)
	M_Y	Nm (in-lb)	80 (708)	205 (1,814)
	M_Z	Nm (in-lb)	80 (708)	205 (1,814)

Belt Driven
Tables

Rated Life			HMR15	HMR18	HMR24
2540 km	F_Y / F_Z	N (lb)	8,800 (1,980)	16,200 (3,645)	26,600 (5,985)
2540 km Tandem	F_Y / F_Z	N (lb)	13,200 (2,970)	24,300 (5,468)	39,900 (8,978)
8000 km	F_Y / F_Z	N (lb)	6,000 (1,350)	11,000 (2,475)	18,200 (4,095)
8000 km Tandem	F_Y / F_Z	N (lb)	9,000 (2,025)	16,500 (3,713)	27,300 (6,143)
2540 km	M_X	Nm (in-lb)	430 (3,806)	940 (8,320)	2,150 (19,029)
	M_Y	Nm (in-lb)	560 (4,956)	1,230 (10,886)	2,430 (21,507)
	M_Z	Nm (in-lb)	560 (4,956)	1,230 (10,886)	2,430 (21,507)
2540 km Tandem	M_X	Nm (in-lb)	645 (5,708)	1,410 (12,480)	3,225 (28,544)
	M_Y	Nm (in-lb)	840 (7,435)	1,845 (16,330)	3,645 (32,261)
	M_Z	Nm (in-lb)	840 (7,435)	1,845 (16,330)	3,645 (32,261)
8000 km	M_X	Nm (in-lb)	290 (2,567)	640 (5,664)	1,460 (12,922)
	M_Y	Nm (in-lb)	380 (3,363)	840 (7,435)	1,660 (14,692)
	M_Z	Nm (in-lb)	380 (3,363)	840 (7,434)	1,660 (14,692)
8000 km Tandem	M_X	Nm (in-lb)	435 (3,850)	960 (8,497)	2,190 (19,383)
	M_Y	Nm (in-lb)	570 (5,045)	1,260 (11,152)	2,490 (22,038)
	M_Z	Nm (in-lb)	570 (5,045)	1,260 (11,152)	2,490 (22,038)





Weight, Mass, and Inertia

Weight and mass HMRB

Product size		HMRB08				HMRB11				HMRB15			
		Weight of actuator											
Version actuator (see order code)		B	C	R	S	B	C	R	S	B	C	R	S
Weight. 0 - order stroke	m ₀ [kg]	2.4	2.7	3.1	3.4	4.4	4.8	6.1	6.5	6.7	7.5	9.4	10.3
Weight per 1 m order stroke	m _{mt} [kg/m]	3.0	4.0	4.0	5.0	5.4	6.4	7.6	8.6	8.2	9.9	11.5	13.3
		Moving mass carrier											
Version of carriage (see order code)		0		1		0		1		0		1	
Weight carriage*	m _c [kg]	0.9		0.7		1.7		1.3		2.7		1.9	

Weight and mass HMRB

Product size			HMRB18				HMRB24			
			Weight of actuator							
Version actuator (see order code)			B	C	R	S	B	C	R	S
Weight. 0 - order stroke	m ₀	[kg]	11.6	12.8	15.6	16.7	21.5	23.1	28.0	29.6
Weight per 1 m order stroke	m _{mt}	[kg/m]	12.8	15.1	16.5	18.7	21.6	24.4	26.7	29.5
			Moving mass carrier							
Version of carriage (see order code)			0		1		0		1	
Weight carriage*	m _c	[kg]	4.6		3.7		9.0		7.2	

*For tandem and bi-parting carriage weight add mass from column '0' and '1'

Total mass HMRB: $m_{tot} = m_0 + m_c + \text{order stroke} * m_{mt}$

Inertia HMRB

Product size		HMRB08		HMRB11		HMRB15	
Motor mounting position (see order code)		090°/270°	000°/180°	090°/270°	000°/180°	090°/270°	000°/180°
Inertia							
Inertia 0 - order stroke	J_0 [kgmm ²]	14	14	52	52	102	145
Inertia per 1 m order stroke	J_{mt} [kgmm ² /m]	10	10	41	41	79	79
Inertia per 1 kg moving mass	J_{kg} [kgmm ² /kg]	110	110	205	205	253	396

Inertia HMRB

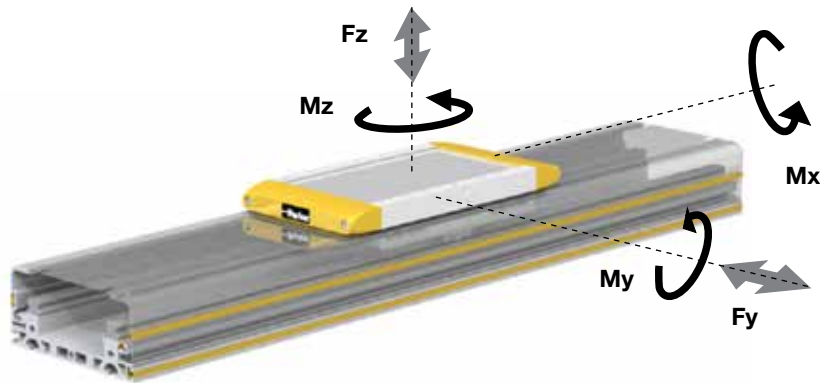
Product size		HMRB18		HMRB24	
Motor mounting position (see order code)		090°/270°	000°/180°	090°/270°	000°/180°
Inertia					
Inertia 0 - order stroke	J_0 [kgmm ²]	297	394	1,178	2,758
Inertia per 1 m order stroke	J_{mt} [kgmm ² /m]	134	222	689	900
Inertia per 1 kg moving mass	J_{kg} [kgmm ² /kg]	428	570	649	1,271

Inertia total HMRB: $J_{tot} = J_0 + \text{order stroke} * J_{mt} + m_c * J_{kg} + m * J_{kg}$

HMR Loading Conditions

Loading conditions, including external forces and moment loading, are application dependent. The center of gravity for the mass/payload attached to the carriage must be determined in order to properly size the ideal actuator for your application. Please note that when selecting the proper HMR actuator for your system the sum of all loading should not exceed "1" as per the formula below.

Loads, forces, and bending moments



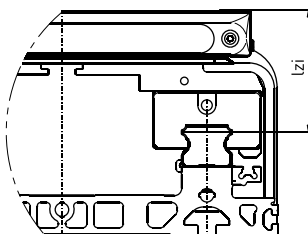
Calculating Load Factors - Combined Normal and Moment Load

The sum of combined loads (static and dynamic) must not exceed "1" at any time as shown in the formula below:

$$L = \frac{F_y}{F_{y(max)}} + \frac{F_z}{F_{z(max)}} + \frac{M_x}{M_{x(max)}} + \frac{M_y}{M_{y(max)}} + \frac{M_z}{M_{z(max)}} \leq 1$$

$M = F \times d \text{ (Nm)}$
 $M_x = M_{x \text{ static}} + M_{x \text{ dynamic}}$
 $M_y = M_{y \text{ static}} + M_{y \text{ dynamic}}$
 $M_z = M_{z \text{ static}} + M_{z \text{ dynamic}}$

Internal lever arm l_{zi}

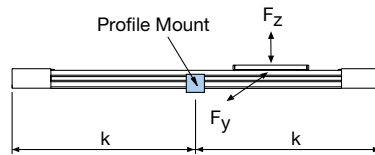


Dimensions - Internal lever arm l_{zi}

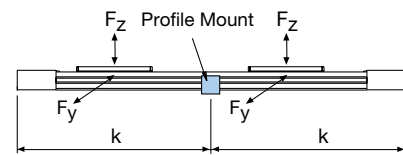
Product size	l_{zi}
HMRx085	[mm] 33.0
HMRx110	[mm] 39.5
HMRx150	[mm] 50.0
HMRx180	[mm] 57.5
HMRx240	[mm] 68.0

Maximum Permissible Unsupported Length — *Determining actuator mounting placement*

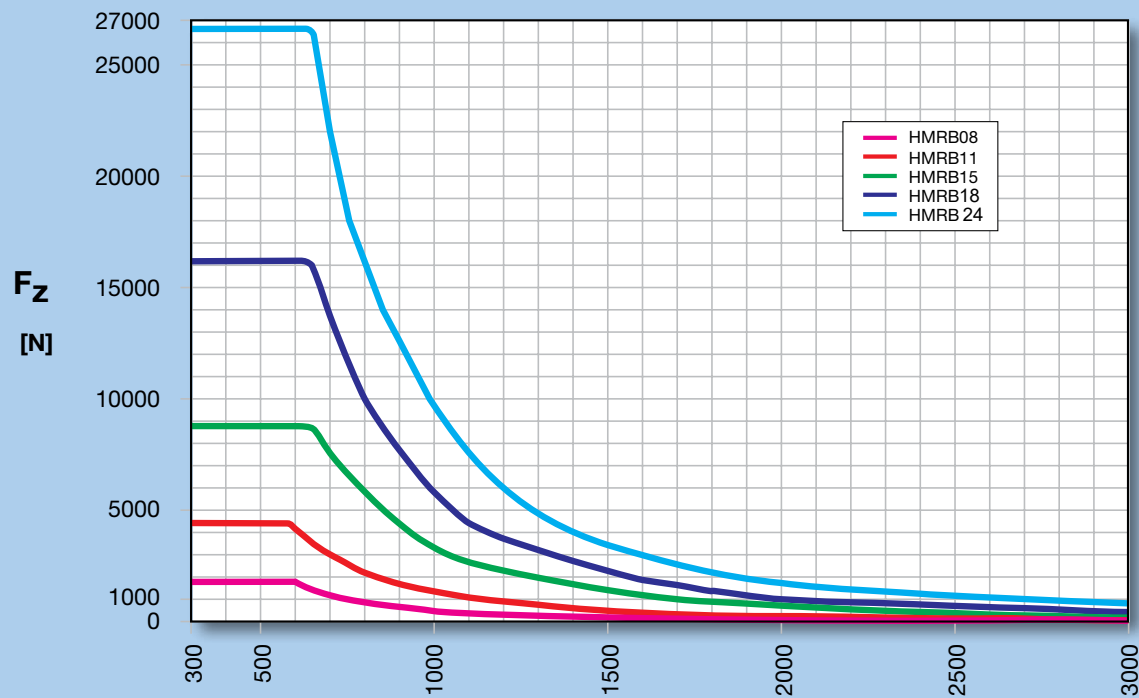
HMR Series actuators need to be mounted onto a solid machine base or frame structure using appropriately positioned actuator mounts. This ensures that the actuator will not undergo excessive deflection based on the application's load and length requirements.



The greater the load and/or the longer the unsupported length between mounts, the more the actuator is susceptible to deflection.



Deflection is also dependent on the carriage orientation (F_z for standard mounted actuator or F_y for a side mounted actuator).



Example F_z HMR 11:

For a 3160 N load, the distance "d" between supporting elements is 700 mm.
For mounting accessories see "Actuator Mounting" in Options & Accessories.

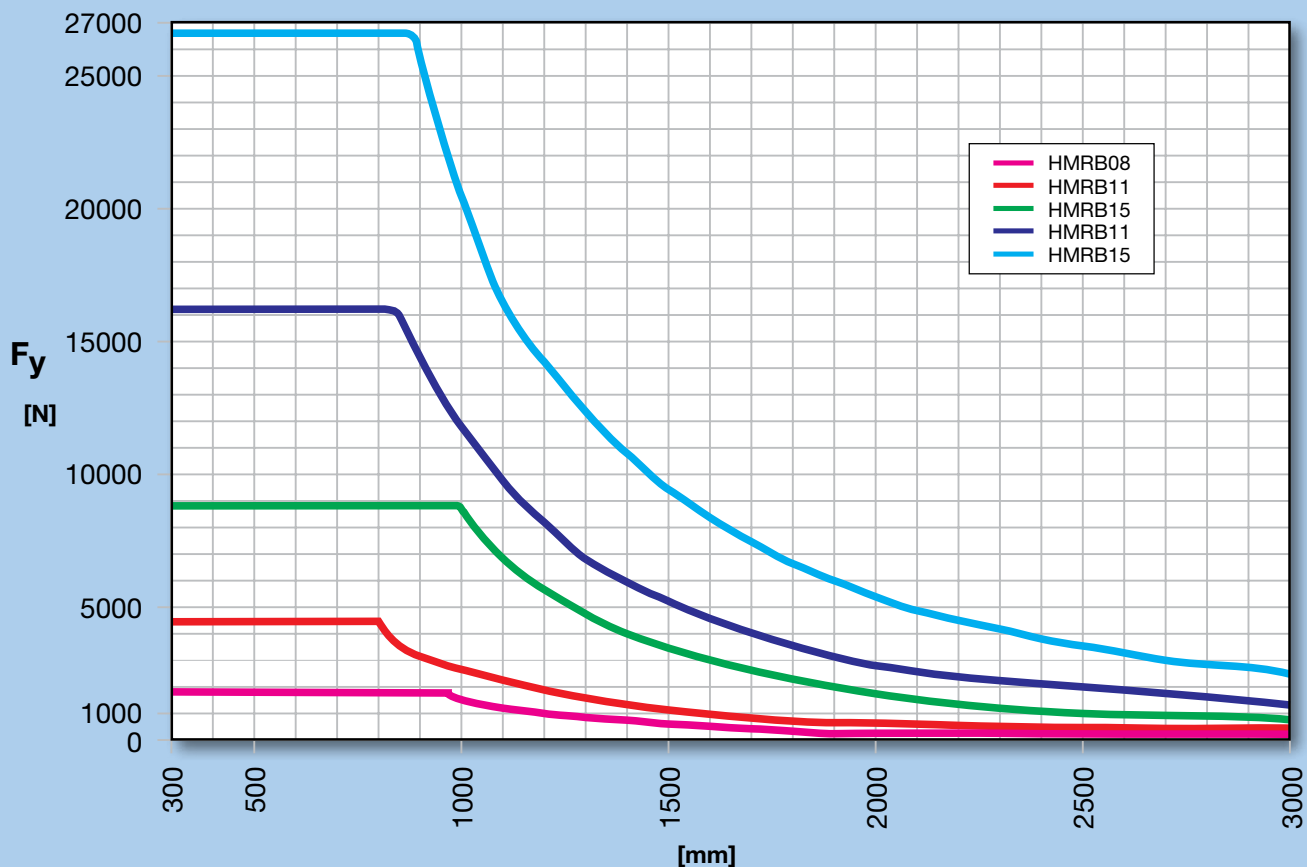
Maximum Permissible Unsupported Length — *Determining actuator mounting placement*

Use the appropriate deflection graph to ensure that the application load does not exceed the deflection curve. Supporting the actuator within the recommended maximum distance “k” will ensure that the installation will have a maximum deflection equal to 0.01% of distance “k.”

To further reduce deflection, simply reduce the distance between actuator mounts as described in the examples below.



Maximum admissible loads [N] and supporting distances [mm] (self-supporting- reinforced profile only)



Example F_y HMR 11:

For a 3160 N load, the distance “d” between supporting elements is 900 mm.
For mounting accessories see “Actuator Mounting” in Options & Accessories.

DIMENSIONS

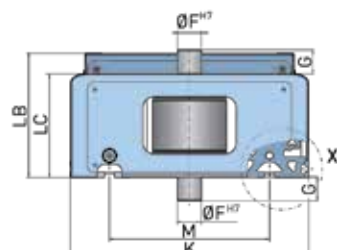
Dimensions – (mm)

HMR actuators can be configured with either "Basic" or "Reinforced" profiles based on applications demands. Basic profiles are suitable for applications where the actuator is secured to a machine base and constantly supported. Reinforced profiles can be utilized in applications with unsupported spans. See Maximum Permissible Unsupported Length for mounting support instructions.

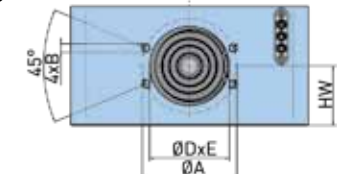
Dimensions - (000°/180° option shown)

"Basic" profile

View A

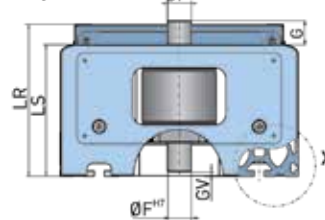


View B

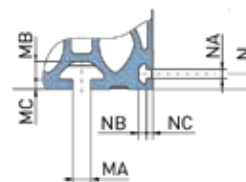


"Reinforced" profile

View A

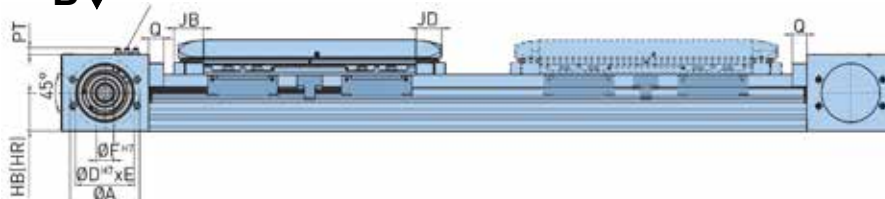


View X

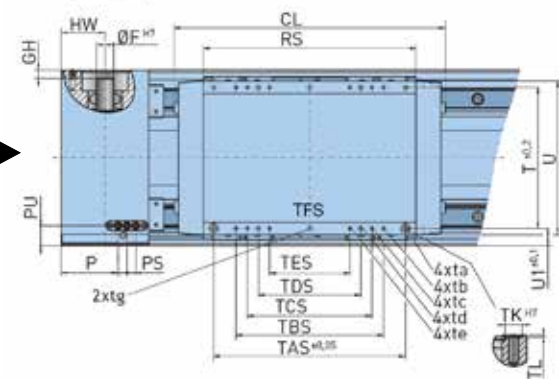


Dimensions carrier

B▼ 3-PIN M8 connections



A▶



Free sizing and selection support
from Virtual Engineer at
parker.com/VirtualEngineer





Dimensions – (mm)

Dimension table - HMRB

Size	Ø A	B	Ø D ^{H7}	E	Ø F ^{H7}	G	GV	GH	HB	HR	HW	K	LB	LC
HMRB08 [mm]	42.0	M4	34.0	2.5	10.0	13.5	2.5	3.0	26.5	37.5	25.0	85.0	60.0	52.5
HMRB11 [mm]	51.0	M6	39.0	1.2	12.0	20.0	0.0	5.0	30.0	50.0	31.0	110.0	69.5	60.5
HMRB15 [mm]	72.0	M8	54.0	2.1	15.0	19.3	7.0	5.5	36.5	60.5	45.0	150.0	90.0	74.0
HMRB18 [mm]	80.0	M8	64.0	4.0	18.0	21.8	1.5	8.0	45.0	68.0	50.0	180.0	111.5	93.5
HMRB24 [mm]	95.0	M10	80.0	2.5	24.0	24.0	4.0	11.0	52.5	80.5	60.0	240.0	125.0	104.5

Dimension table - HMRB

Product size	LR	LS	M	MA	MB	MC	N	NA	NB	NC	P	PS	PT	PU	Q
HMRB08 [mm]	71.0	63.5	50.0	5.2	4.5	1.5	4.5	3.4	3.0	2.5	23.8	12.0	9.0	12.0	16.0
HMRB11 [mm]	89.5	80.5	70.0	5.2	4.5	1.8	4.5	3.4	3.0	2.5	30.8	12.0	9.0	17.0	20.0
HMRB15 [mm]	114.0	98.0	96.0	6.2	6.8	3.0	6.5	5.2	4.6	3.5	48.0	12.0	9.0	21.0	20.0
HMRB18 [mm]	134.5	116.5	116.0	8.0	7.8	4.5	8.5	5.2	4.5	3.5	58.0	12.0	9.0	28.0	20.0
HMRB24 [mm]	153.0	132.5	161.0	10.0	10.2	5.3	8.5	5.2	4.5	3.5	78.0	12.0	9.0	28.6	20.0

Dimension table - carriage standard HMRB

Product size	JB	JD	CL	RS	T	TAS	ta	TBS	tb	TCS	tc	TDS	td	TES
HMRB08 [mm]	33.5	30.0	195.0	128.0	74.0	97.0	M4x12	70.0	M4x12	40.0	M4x12	-	-	-
HMRB11 [mm]	37.5	34.0	225.0	150.0	96.0	122.0	M5x12	97.0	M5x12	65.0	M5x12	25.0	M5x12	-
HMRB15 [mm]	37.5	34.0	266.0	191.0	120.0	170.0	M5x12	122.0	M5x12	110.0	M5x12	70.0	M5x12	-
HMRB18 [mm]	40.0	34.0	311.0	231.0	150.0	202.0	M6x12	170.0	M5x10	122.0	M5x10	110.0	M5x12	90.0
HMRB24 [mm]	40.0	34.0	371.0	291.0	192.0	262.0	M8x16	202.0	M6x12	170.0	M5x10	140.0	M8x16	122.0

Dimension table - carriage standard HMRB

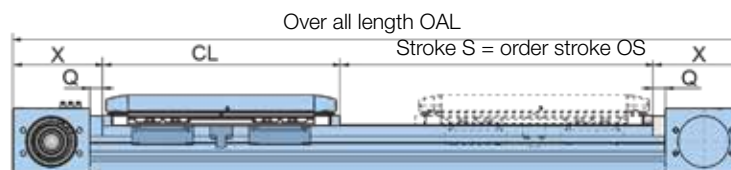
Product size	te	TFS	tf	tg	ØTKH7	TL	U	U1
HMRB08 [mm]	-	-	-	-	7.0	1.5	83.0	5.5
HMRB11 [mm]	-	-	-	-	7.0	1.5	105.0	7.0
HMRB15 [mm]	-	-	-	M5x12	7.0	1.5	135.0	15.0
HMRB18 [mm]	M6x12	-	-	M6x12	9.0	1.5	165.0	15.0
HMRB24 [mm]	M5x10	110.0	M5x12	M8x16	12.0	1.5	210.0	24.0

Dimensions – mm

Stroke depending dimensions

- ES = Effective Stroke
- SS = Safety Stroke
- CD = Carriage distance
- CL = Carriage length Standard
- S = Stroke
- OS = Order Stroke
- OAL = Over All Length

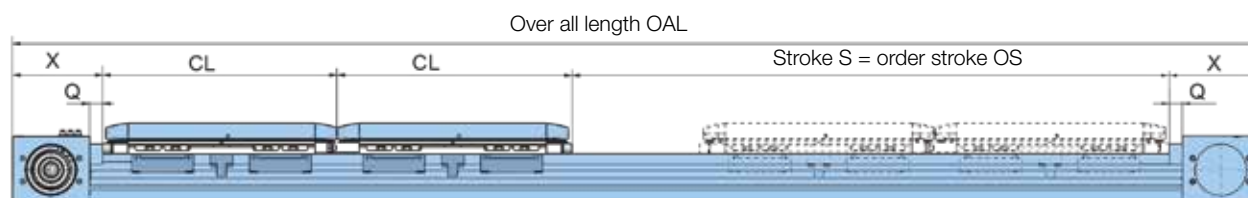
Option Carrier Standard



Order stroke OS = Effective stroke ES + 2 x Safety stroke SS

Over all length OAL = Order stroke OS + Carrier length CL + 2 x End cap length X

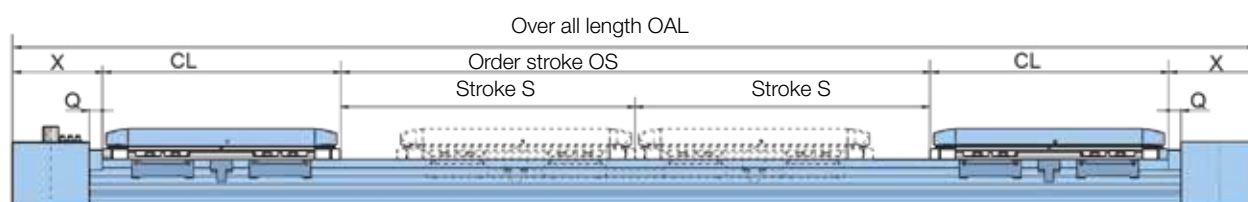
Option Carrier Tandem



Order stroke OS = Effective stroke ES + 2 x Safety stroke SS + Carrier distance CD (not shown)

Over all length OAL = Order stroke OS + 2 x Carrier length CL + 2 x End cap length X

Option Carrier Bi-part for opposite movements



Order stroke OS = 2 x Stroke S = 2 x Effective stroke ES + 4 x Safety stroke SS + Carrier distance CD (not shown)

Over all length OAL = Order stroke OS + 2 x Carrier length CL + 2 x End cap length X

Dimensions - Carriage and end cap HMRB

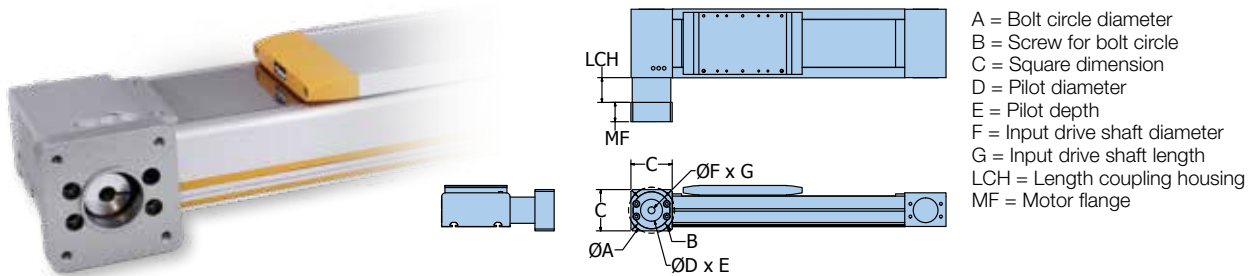
Product size	CL	Q	X
HMRB08 [mm]	195.0	16.0	74.0
HMRB11 [mm]	225.0	20.0	85.0
HMRB15 [mm]	266.0	20.0	110.0
HMRB18 [mm]	311.0	20.0	120.0
HMRB24 [mm]	371.0	20.0	140.0

OPTIONS & ACCESSORIES

OPTIONS & ACCESSORIES

Gearhead Mounting Kit Options

Gearhead Mounting Kits include a coupling housing, coupling, and flange.



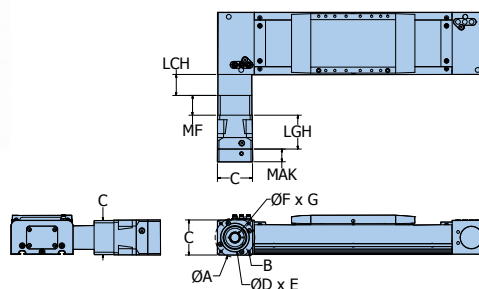
(see page 257 for LCH dimensions)

Actuator Size	Order Code ^①	Dimensions							
		A	B	C	D	E	F	G	MF
HMRB08	C0	44	M4x0.7	60	35	6	12	25	20
HMRB11	A7	70	M5x0.8	60	50	15	16	40	35
	C0	44	M4x0.7	60	35	6	12	25	20
	C1	62	M5x0.8	80	52	8	16	40	35
	BX	70	M5x0.8	60	50	10	16	25	20
HMRB15	A7	70	M5x0.8	85	50	15	16	40	30
	A8	100	M6x1	90	80	20	22	52	42
	C1	62	M5x0.8	84	52	12	16	36	30
	C2	80	M6x1	92	68	5	22	46	36
	BX	70	M5x0.8	85	50	5	16	25	20
	BY	100	M6x1	92	80	15	20	40	30
HMRB18	A8	100	M6x1	100	80	30	22	52	40
	C2	80	M6x1	92	68	6	22	46	30
	BY	100	M6x1	92	80	15	20	40	30
	BZ	130	M8x1.25	115	110	25	24	50	40
HMRB24	A9	130	M8x1.25	115	110	25	32	68	40
	C3	108	M8x1.25	125	90	17	32	70	40
	BZ	130	M8x1.25	115	110	5	24	50	20

¹ When ordering with actuator, use order code ① to specify appropriately sized gearhead mounting kit, and order code ③ to specify drive shaft orientation. See Ordering Information.

Mounted Gearhead with Motor Mounting Kit Options

Mounted Gearhead with Motor Mounting Kits include a coupling housing, coupling, flange, and gearhead with coupler and flange.



A = Bolt circle diameter
B = Screw for bolt circle
C = Square dimension
D = Pilot diameter
E = Pilot depth of the flange
F = Input drive shaft diameter
G = Input drive shaft length
LCH = Length coupling housing
LGH = Length gearhead
MAK = Motor adapter
MF = Motor flange

(see page 257 for LCH dimensions)

Actuator Size	Order Code ^⑨ 1	Order Code ^⑩ 2	A	B	C	D	E	F	G	LGH	MAK	MF
HMRB08	Jx	AB	66.68	M4x0.7	55	38.10	3.5	6.35	20.8	48.5	15.7	20
	Jx	AC	66.68	M5x0.8	57	38.11	6	9.53	20.8	48.5	26	20
	Jx	AD	66.68	M5x0.8	57	38.11	6	9.53	31.8	48.5	26	20
	Jx	B6	63	M5x0.8	55	40.05	8	9	23	48.5	19	20
HMRB11	Fx	A3	100	M6x1	82	80	5	14	30	59.8	18	35
	Fx	AB	66.68	M4x0.7	62	38.10	4	6.35	20.8	59.8	16.5	35
	Fx	AC	66.68	M5x0.8	62	38.15	4	9.53	20.8	59.8	16.5	35
	Fx	AD	66.68	M5x0.8	62	38.15	4	9.53	31.8	59.8	16.5	35
	Fx	AE	98.43	M5x0.8	86.8	73.03	7	12.70	37.1	59.8	22.5	35
	Fx	AF	98.43	M5x0.8	86.8	73.03	7	12.70	31.8	59.8	22.5	35
	Fx	AH	63	M5x0.8	62	40	4	9	23	59.8	16.5	35
	Fx	AN	70	M5x0.8	62	50	4	14	30	59.8	16.5	35
	Fx	B6	63	M4x0.7	62	40	4	9	23	59.8	16.5	35
	Jx	AB	66.68	M4x0.7	55	38.10	3.5	6.35	20.8	48.5	15.7	20
	Jx	AC	66.68	M5x0.8	57	38.11	6	9.53	20.8	48.5	26	20
	Jx	AD	66.68	M5x0.8	57	38.11	6	9.53	31.8	48.5	26	20
	Jx	B6	63	M5x0.8	55	40	8	9	23	48.5	19	20
	Kx	AB	66.68	M4x0.7	62	38.10	4	6.35	20.8	67	16.5	35
	Kx	AC	66.68	M4x0.7	62	38.10	4	9.53	20.8	67	16.5	35
	Kx	AD	66.68	M5x0.8	62	38.10	8.5	9.53	31.8	67	22.5	35
	Kx	AE	98.43	M6x1	85	73.05	10	12.70	37.1	67	30	35
	Kx	AF	98.43	M5x0.8	80	73.05	10	12.70	31.8	67	22.5	35
	Kx	AH	63	M5x0.8	62	40	4	9	23	67	16.5	35
	Kx	AN	70	M5x0.8	62	50	11	14	30	67	22.5	35
	Kx	B6	63	M4x0.7	62	40	4	9	23	67	16.5	35

¹ When ordering with actuator, use order code ^⑨ (see Ordering Information) to specify mounted gearhead size, ratio and orientation:
Gearhead size example: **F** = PS60 **G** = PS90 **H** = PS115 **J** = PV040TA **K** = PV60TA **L** = PV090TA **M** = PV115TA
Gearhead ratio and mounting orientation: (Replace "x" to specify)
1 = ratio 3:1 **2** = ratio 5:1 **3** = ratio 10:1
^{*} 3:1 ratio not available on "J" PV040TA gearhead

² Use order code ^⑩ (see Ordering Information) to specify appropriately sized motor mounting kit.

(continued on next page)

Mounted Gearhead with Motor Mounting Kit Options

(continued from previous page)

Actuator Size	⑨ Order Code ¹	⑩ Order Code ²	A	B	C	D	E	F	G	LGH	MAK	MF
HMRB15	Fx	A3	100	M6x1	82	80	5	14	30	59.8	18	30
	Fx	AB	66.68	M4x0.7	62	38.10	4	6.35	20.8	59.8	16.5	30
	Fx	AC	66.68	M5x0.8	62	38.15	4	9.53	20.8	59.8	16.5	30
	Fx	AD	66.68	M5x0.8	62	38.15	4	9.53	31.8	59.8	16.5	30
	Fx	AE	98.43	M5x0.8	86.8	73.03	7	12.70	37.1	59.8	22.5	30
	Fx	AF	98.43	M5x0.8	86.8	73.03	7	12.70	31.8	59.8	22.5	30
	Fx	AH	63	M5x0.8	62	40	4	9	23	59.8	16.5	30
	Fx	AN	70	M5x0.8	62	50	4	14	30	59.8	16.5	30
	Fx	B6	63	M4x0.7	62	40	4	9	23	59.8	16.5	30
	Gx	A2	63	M5x0.8	90	40	3	11	23	69.5	20	42
	Gx	A3	100	M6x1	90	80	10	14	30	69.5	20	42
	Gx	A4	115	M8x1.25	100	95	10	19	40	69.5	28.5	42
	Gx	AB	66.68	M5x0.8	90	38.15	3	6.35	20.8	69.5	20	42
	Gx	AC	66.68	M5x0.8	90	38.15	3	9.53	20.8	69.5	20	42
	Gx	AD	66.68	M5x0.8	90	38.15	3	9.53	31.8	69.5	20	42
	Gx	AE	98.43	M5x0.8	90	73.03	10	12.70	37.1	69.5	20	42
	Gx	AF	98.43	M5x0.8	90	73.07	10	12.70	31.8	69.5	20	42
	Gx	AH	63	M5x0.8	90	40	2.5	9	23	69.5	20	42
	Gx	AL	100	M6x1	90	80	10	16	40	69.5	20	42
	Gx	AN	70	M5x0.8	90	50	10	14	30	69.5	20	42
	Gx	AP	90	M6x1	90	70	10	19	40	69.5	20	42
	Gx	B1	90	M5x0.8	90	60	10	11	23	69.5	20	42
	Gx	B3	95	M6x1	90	50	10	14	30	69.5	20	42
	Gx	B6	63	M4x0.7	90	40	3	9	23	69.5	20	42
	Kx	AB	66.68	M4x0.7	62	38.1	4	6.35	20.8	67	16.5	30
	Kx	AC	66.68	M4x0.7	62	38.1	4	9.53	20.8	67	16.5	30
	Kx	AD	66.68	M5x0.8	62	38.1	8.5	9.53	31.8	67	22.5	30
	Kx	AE	98.43	M6x1	85	73.05	10	12.70	37.1	67	30	30
	Kx	AF	98.43	M5x0.8	80	73.05	7	12.70	31.8	67	22.5	30
	Kx	AH	63	M5x0.8	62	40	4	9	23	67	16.5	30
	Kx	AN	70	M5x0.8	62	50	4	14	30	67	22.5	30
	Kx	B6	63	M4x0.7	62	40	11	9	23	67	16.5	30
	Lx	A2	63	M5x0.8	90	40	3	11	23	85.5	20	36
	Lx	A3	100	M6x1	90	80	10	14	30	85.5	20	36
	Lx	A4	115	M8x1.25	100	95	10	19	40	85.5	28.5	36
	Lx	AB	66.68	M4x0.7	90	38.15	3	6.35	20.8	85.5	20	36
	Lx	AC	66.68	M5x0.8	90	52	10	9.53	20.8	85.5	20	36
	Lx	AD	66.68	M5x0.8	90	52	10	9.53	31.8	85.5	20	36
	Lx	AE	98.43	M5x0.8	90	73.03	10	12.70	37.1	85.5	28.5	36
	Lx	AF	98.43	M5x0.8	90	73	10	12.70	31.8	85.5	20	36
	Lx	AH	63	M5x0.8	90	40	10	9	23	85.5		36
	Lx	AL	100	M6x1	90	80	10	16	40	85.5	28.5	36
	Lx	AN	70	M5x0.8	90	50	10	14	30	85.5	20	36
	Lx	AP	90	M6x1	90	70	10	19	40	85.5	28.5	36

Belt Driven
Tables

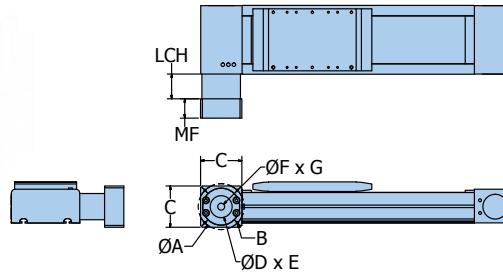
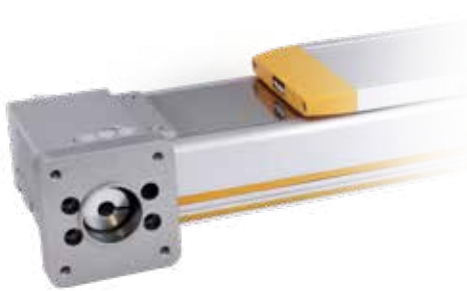
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Actuator Size	Order Code ^⑨ 1	Order Code ^⑩ 2	A	B	C	D	E	F	G	LGH	MAK	MF
HMRB18	Gx	A2	63	M5x0.8	90	40	3	11	23	69.5	20	40
	Gx	A3	100	M6x1	90	80	10	14	30	69.5	20	40
	Gx	A4	115	M8x1.25	100	95	10	19	40	69.5	28.5	40
	Gx	AB	66.68	M5x0.8	90	38.15	3	6.35	20.8	69.5	20	40
	Gx	AC	66.68	M5x0.8	90	38.15	3	9.53	20.8	69.5	20	40
	Gx	AD	66.68	M5x0.8	90	38.15	3	9.53	31.8	69.5	20	40
	Gx	AE	98.43	M5x0.8	90	73	10	12.70	37.1	69.5	20	40
	Gx	AF	98.43	M5x0.8	90	73	10	12.70	31.8	69.5	20	40
	Gx	AH	63	M5x0.8	90	40	3	9	23	69.5	20	40
	Gx	AL	100	M6x1	90	80	10	16	40	69.5	20	40
	Gx	AN	70	M5x0.8	90	50	10	14	30	69.5	20	40
	Gx	AP	90	M6x1	90	70	10	19	40	69.5	20	40
	Gx	B1	90	M5x0.8	90	60.01	10	11	23	69.5	20	40
	Gx	B3	95	M6x1	90	50	10	14	30	69.5	20	40
	Gx	B6	63	M4x0.7	90	40	3	9	23	69.5	20	40
	Lx	A2	63	M5x0.8	90	40	3	11	23	85.5	20	30
	Lx	A3	100	M6x1	90	80	10	14	30	85.5	20	30
	Lx	A4	115	M8x1.25	100	95	10	19	40	85.5	28.5	30
	Lx	AB	66.68	M4x0.7	90	38.15	3	6.35	20.8	85.5	20	30
	Lx	AC	66.68	M5x0.8	90	52	10	9.53	20	85.5	20	30
	Lx	AD	66.68	M5x0.8	90	52	10	9.53	31	85.5	20	30
	Lx	AE	98.43	M5x0.8	90	73.03	10	12.70	37.1	85.5	28.5	30
	Lx	AF	98.43	M5x0.8	90	73	10	12.70	31.8	85.5	20	30
	Lx	AH	63	M5x0.8	90	40	10	9	23	85.5		30
	Lx	AL	100	M6x1	90	80	10	16	40	85.5	28.5	30
	Lx	AN	70	M5x0.8	90	50	10	14	30	85.5	20	30
	Lx	AP	90	M6x1	90	70	10	19	40	85.5	28.5	30
HMRB24	Hx	A4	115	M8x1.25	115	95	10	19	50	90.2	24	40
	Hx	AF	98.4	M5x0.8	115	73.03	10	12.70	31.8	90.2	24	40
	Hx	AK	130	M8x1.25	115	110	10	24	40	90.2	24	40
	Hx	AL	100	M6x1	115	80	10	16	40	90.2	24	40
	Hx	AQ	165	M10x1.5	140	130	10	28	60	90.2	35	40
	Hx	AP	90	M6x1	115	70	10	19	40	90.2	24	40
	Mx	A4	115	M8x1.25	115	95.05	10	19	50	110	24	40
	Mx	AF	98.4	M5x0.8	115	73	10	12.70	31.8	110	24	40
	Mx	AK	130	M8x1.25	115	110	10	24	40	110	35	40
	Mx	AL	100	M6x1	115	80	10	16	40	110	24	40
	Mx	AP	90	M6x1	115	70	10	19	40	110	35	40

¹ When ordering with actuator, use order code ^⑨ (see Ordering Information) to specify mounted gearhead size, ratio and orientation:
 Gearhead size example: **F** = PS60 **G** = PS90 **H** = PS115 **J** = PV040TA **K** = PV60TA **L** = PV090TA **M** = PV115TA
 Gearhead ratio and mounting orientation: (Replace "x" to specify)
1 = ratio 3:1 **2** = ratio 5:1 **3** = ratio 10:1
^{*} 3:1 ratio not available on "J" PV040TA gearhead
² Use order code ^⑩ (see Ordering Information) to specify appropriately sized motor mounting kit.

Motor Mounting Kit Options

Motor Mounting Kits include a coupling housing, coupling, and flange.



A = Bolt circle diameter
B = Screw for bolt circle
C = Square dimension
D = Pilot diameter
E = Pilot depth
F = Input drive shaft diameter
G = Input drive shaft length
LCH = Length coupling housing
MF = Motor flange

Belt Driven
Tables

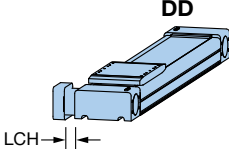
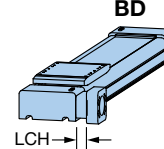
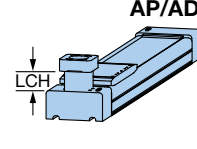
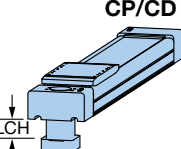
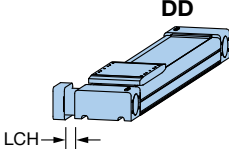
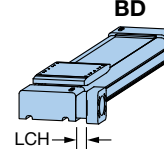
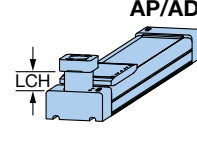
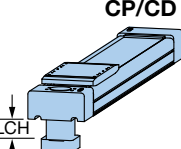
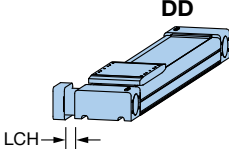
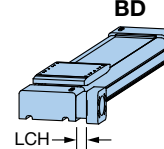
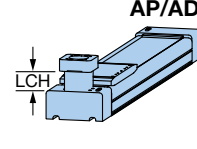
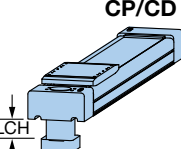
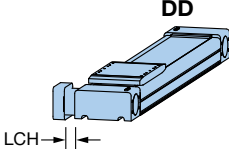
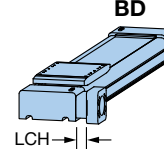
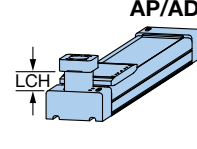
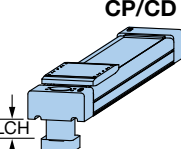
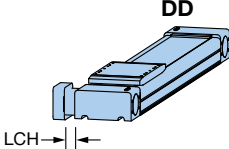
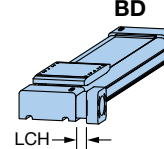
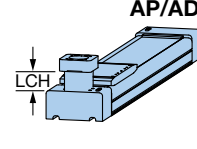
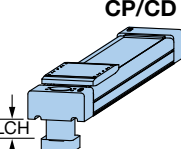
Actuator Size	Order Code ¹	Dimensions							
		A	B	C	D	E	F	G	MF
HMRB08	A2	63	M5x0.8	60	40	10	11	23	20
	AB	66.68	M4x0.7	60	38.10	10	6.35	20.8	20
	AC	66.68	M5x0.8	60	38.10	10	9.53	20.8	20
	AD	66.68	M5x0.8	60	38.10	15	9.53	31.8	27
	AE	98.43	M6x1	85	73.03	15	12.70	37.1	33
	AF	98.43	M5x0.8	85	73.03	15	12.70	31.8	27
	AG	75	M5x0.8	70	60	10	11	23	20
	AH	63	M5x0.8	60	40	10	9	23	20
	AN	70	M5x0.8	60	50	15	14	30	25
	B0	75	M6x1	70	60	15	14	30	25
	B1	90	M5x0.8	75	60	10	11	23	20
	B2	90	M5x0.8	75	60	15	14	30	25
	B3	95	M6x1	80	50	15	14	30	25
	B6	63	M4x0.7	60	40	10	9	23	20
	B7	70	M5x0.8	60	50	15	8	30	25
	B8	70	M5x0.8	60	50	15	12	30	25
HMRB11	A2	63	M5x0.8	60	40	5	11	23	15
	AB	66.68	M4x0.7	60	38.10	10	6.35	20.8	15
	AC	66.68	M5x0.8	60	38.10	10	9.53	20.8	15
	AD	66.68	M5x0.8	60	38.10	15	9.53	31.8	25
	AE	98.43	M6x1	85	73.03	20	12.70	37.1	33
	AF	98.43	M5x0.8	85	73.03	15	12.70	31.8	27
	AG	75	M5x0.8	70	60	10	11	23	20
	AH	63	M5x0.8	60	40	5	9	23	15
	AL	100	M6x1	92	80	15	16	40	36
	AN	70	M5x0.8	60	50	15	14	30	25
	B0	75	M6x1	70	60	15	14	30	25
	B1	90	M5x0.8	80	60	10	11	23	20
	B2	90	M5x0.8	80	60	15	14	30	25
	B3	95	M6x1	80	50	15	14	30	25
	B7	70	M5x0.8	60	50	15	8	30	25
	B8	70	M5x0.8	60	50	15	12	30	25

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HMRB15	A2	63	M5x0.8	84	40	3	11	23	20
	A3	100	M6x1	92	80	5	14	30	20
	A4	115	M8x1.25	100	95	15	19	40	30
	AE	98.43	M6x1	85	73.03	15	12.70	37.1	25
	AF	98.43	M5x0.8	85	73.03	10	12.70	31.8	20
	AL	100	M6x1	92	80	15	16	40	30
	AN	70	M5x0.8	85	50	5	14	30	20
	AP	90	M6x1	84	70	15	19	40	30
	B0	100	M6x1	85	60	5	14	30	20
	B2	90	M5x0.8	85	60	5	14	30	20
HMRB18	A3	100	M6x1	92	80	5	14	30	20
	A4	115	M8x1.25	100	95	15	19	40	30
	AF	98.43	M5x0.8	90	73.03	10	12.70	31.8	20
	AK	130	M8x1.25	115	110	25	24	50	40
	AL	100	M6x1	92	80	15	16	40	30
	AP	90	M6x1	90	70	15	19	40	30
	B0	75	M6x1	90	60	10	14	30	20
	B2	90	M6x1	90	60	10	14	30	20
HMRB24	A4	115	M8x1.25	110	95	5	19	40	20
	AK	130	M8x1.25	115	110	5	24	50	20

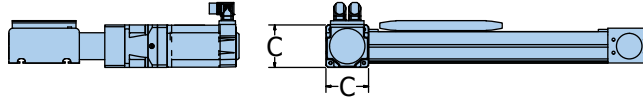
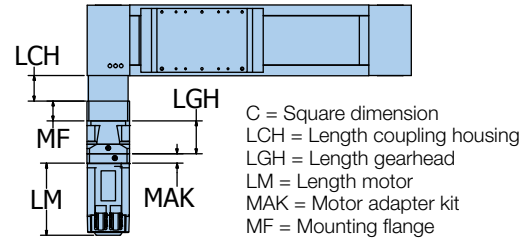
¹ When ordering with actuator, use order code ③ to specify appropriately sized motor mounting kit. See Ordering Information.

Coupling Housing LCH Dimensions (For all Gearhead and Motor Mounting Options)

Actuator Size	Order Code	LCH (mm)	DD	BD	AP/AD	CP/CD
HMRB08	BD, DD	13				
	AP, CP, AD, CD	28				
HMRB11	BD, DD	15				
	AP, CP, AD, CD	37				
HMRB15	BD, DD	30				
	AP, CP, AD, CD	54				
HMRB18	BD, DD	42				
	AP, CP, AD, CD	70				
HMRB24	BD, DD	60				
	AP, CP, AD, CD	85				

Mounted Gearhead and Motor Options

Mounted Gearhead and Motor options include a coupling housing, flange, gearhead with coupler, flange and motor



Actuator Size	Order Code ^⑨ 1	Order Code ^⑩ 2	Mounted Motor	C	LGH	LM	MAK	MF
HMRB08	Jx	K0	BE233FJ-KPSN	60	48.5	143.2	26	20
	Jx	K1	BE233FJ-KPSN with Brake (CM233FJ-115027)	60	48.5	178	26	20
HMRB11	Fx	K0	BE233FJ-KPSN	60	59.8	143.2	16.5	35
	Fx	K1	BE233FJ-KPSN with Brake (CM233FJ-115027)	60	59.8	178	16.5	35
	Fx	K2	BE344LJ-KPSN	60	59.8	188	22.5	35
	Fx	K3	BE344LJ-KPSB	60	59.8	231	22.5	35
	Fx	K4	PM-FBL04AMK	60	59.8	108.2	16.5	35
	Fx	K5	PM-FBL04AMK2 (w/ Brake)	60	59.8	148.2	16.5	35
	Jx	K0	BE233FJ-KPSN	60	48.5	143.2	26	20
	Jx	K1	BE233FJ-KPSN with Brake (CM233FJ-115027)	60	48.5	178	26	20
	Kx	K0	BE233FJ-KPSN	80	67	143.2	22.5	35
	Kx	K1	BE233FJ-KPSN with Brake (CM233FJ-115027)	80	67	178	22.5	35
	Kx	K2	BE344LJ-KPSN	80	67	188	22.5	35
	Kx	K3	BE344LJ-KPSB	80	67	231	22.5	35
	Kx	K4	PM-FBL04AMK	80	67	108.2	22.5	35
	Kx	K5	PM-FBL04AMK2 (w/ Brake)	80	67	148.2	22.5	35

¹ When ordering with actuator, use order code ^⑨ (see Ordering Information) to specify mounted gearhead size, ratio and orientation:
Gearhead size example: **F** = PS60 **G** = PS90 **H** = PS115 **J** = PV040TA **K** = PV60TA **L** = PV090TA **M** = PV115TA
Gearhead ratio and mounting orientation: (Replace "x" to specify)

1 = ratio 3:1 **2** = ratio 5:1 **3** = ratio 10:1

* 3:1 ratio not available on "J" PV040TA gearhead

² Use order code ^⑩ (see Ordering Information) to specify appropriately sized motor mounting kit.

(continued next page)

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Actuator Size	Order Code ^⑨ 1	Order Code ^⑩ 2	Mounted Motor	C	LGH	LM	MAK	MF
HMRB15	Fx	K0	BE233FJ-KPSN	85	59.8	143.2	16.5	30
	Fx	K1	BE233FJ-KPSN with Brake (CM233FJ-115027)	85	59.8	178	16.5	30
	Fx	K2	BE344LJ-KPSN	85	59.8	188	22.5	30
	Fx	K3	BE344LJ-KPSB	85	59.8	231	22.5	30
	Fx	K4	PM-FBL04AMK	85	59.8	108.2	16.5	30
	Fx	K5	PM-FBL04AMK2 (w/ Brake)	85	59.8	148.2	16.5	30
	Gx	K2	BE344LJ-KPSN	90	69.5	188	20	42
	Gx	K3	BE344LJ-KPSB	90	69.5	231	20	42
	Gx	K6	PM-FCL10AMK	90	69.5	152.7	20	42
	Gx	K7	PM-FCL10AMK2 (w/ Brake)	90	69.5	193	20	42
	Gx	M0	MPP0923D1E-KPSN	90	69.5	178	20	42
	Gx	M1	MPP0923D1E-KPSB	90	69.5	212.5	20	42
	Gx	M2	MPP1003D1E-KPSN	90	69.5	174.5	28.5	42
	Gx	M3	MPP1003D1E-KPSB	90	69.5	223	28.5	42
	Gx	M4	MPP1003R1E-KPSN	90	69.5	174.5	28.5	42
	Gx	M5	MPP1003R1E-KPSB	90	69.5	223	28.5	42
	Kx	K0	BE233FJ-KPSN	84	67	143.2	22.5	30
	Kx	K1	BE233FJ-KPSN with Brake (CM233FJ-115027)	84	67	178	22.5	30
	Kx	K2	BE344LJ-KPSN	84	67	188	22.5	30
	Kx	K3	BE344LJ-KPSB	84	67	231	22.5	30
	Kx	K4	PM-FBL04AMK	84	67	108.2	22.5	30
	Kx	K5	PM-FBL04AMK2 (w/ Brake)	84	67	148.2	22.5	30
	Lx	K2	BE344LJ-KPSN	92	85.5	188	20	36
	Lx	K3	BE344LJ-KPSB	92	85.5	231	20	36
	Lx	K6	PM-FCL10AMK	92	85.5	152.7	28.5	36
	Lx	K7	PM-FCL10AMK2 (w/ Brake)	92	85.5	193	28.5	36
	Lx	M0	MPP0923D1E-KPSN	92	85.5	178	28.5	36
	Lx	M1	MPP0923D1E-KPSB	92	85.5	212.5	28.5	36
	Lx	M2	MPP1003D1E-KPSN	92	85.5	174.5	28.5	36
	Lx	M3	MPP1003D1E-KPSB	92	85.5	223	28.5	36
	Lx	M4	MPP1003R1E-KPSN	92	85.5	174.5	28.5	36
	Lx	M5	MPP1003R1E-KPSB	92	85.5	223	28.5	36

¹ When ordering with actuator, use order code ^⑨ (see Ordering Information) to specify mounted gearhead size, ratio and orientation:
 Gearhead size example: **F** = PS60 **G** = PS90 **H** = PS115 **J** = PV040TA **K** = PV60TA **L** = PV090TA **M** = PV115TA
 Gearhead ratio and mounting orientation: (Replace "x" to specify)
1 = ratio 3:1 **2** = ratio 5:1 **3** = ratio 10:1
^{*} 3:1 ratio not available on "J" PV040TA gearhead

² Use order code ^⑩ (see Ordering Information) to specify appropriately sized motor mounting kit.

(continued next page)

Mounted Gearhead and Motor Options

(continued from previous page)

Actuator Size	Order Code ^⑨ 1	Order Code ^⑩ 2	Mounted Motor	C	LGH	LM	MAK	MF
HMRB18	Gx	K2	BE344LJ-KPSN	100	69.5	188	20	40
	Gx	K3	BE344LJ-KPSB	100	69.5	231	20	40
	Gx	K6	PM-FCL10AMK	100	69.5	152.7	20	40
	Gx	K7	PM-FCL10AMK2 (w/ Brake)	100	69.5	193	20	40
	Gx	M0	MPP0923D1E-KPSN	100	69.5	178	20	40
	Gx	M1	MPP0923D1E-KPSB	100	69.5	212.5	20	40
	Gx	M2	MPP1003D1E-KPSN	100	69.5	174.5	28.5	40
	Gx	M3	MPP1003D1E-KPSB	100	69.5	223	28.5	40
	Gx	M4	MPP1003R1E-KPSN	100	69.5	174.5	28.5	40
	Gx	M5	MPP1003R1E-KPSB	100	69.5	223	28.5	40
	Lx	K2	BE344LJ-KPSN	92	85.5	188	20	30
	Lx	K3	BE344LJ-KPSB	92	85.5	231	20	30
	Lx	K6	PM-FCL10AMK	92	85.5	152.7	28.5	30
	Lx	K7	PM-FCL10AMK2 (w/ Brake)	92	85.5	193	28.5	30
	Lx	M0	MPP0923D1E-KPSN	92	85.5	178	28.5	30
	Lx	M1	MPP0923D1E-KPSB	92	85.5	212.5	28.5	30
	Lx	M2	MPP1003D1E-KPSN	92	85.5	174.5	28.5	30
	Lx	M3	MPP1003D1E-KPSB	92	85.5	223	28.5	30
	Lx	M4	MPP1003R1E-KPSN	92	85.5	174.5	28.5	30
	Lx	M5	MPP1003R1E-KPSB	92	85.5	223	28.5	30
HMRB24	Hx	M6	MPP1154B1E-KPSN	115	90.2	203.2	24	40
	Hx	M7	MPP1154B1E-KPSB	115	90.2	251.7	24	40
	Hx	M8	MPP1154P1E-KPSN	115	90.2	203.2	24	40
	Hx	M9	MPP1154P1E-KPSB	115	90.2	251.7	24	40
	Hx	MA	MPP1424C1E-KPSN	115	90.2	223.7	35	40
	Hx	MB	MPP1424C1E-KPSB	115	90.2	275.3	35	40
	Hx	MC	MPP1424R1E-KPSN	115	90.2	223.7	35	40
	Hx	MD	MPP1424R1E-KPSB	115	90.2	275.3	35	40
	Mx	M6	MPP1154B1E-KPSN	125	110	203.2	35	40
	Mx	M7	MPP1154B1E-KPSB	125	110	251.7	35	40
	Mx	M8	MPP1154P1E-KPSN	125	110	203.2	35	40
	Mx	M9	MPP1154P1E-KPSB	125	110	251.7	35	40

¹ When ordering with actuator, use order code ^⑨ (see Ordering Information) to specify mounted gearhead size, ratio and orientation:
 Gearhead size example: **F** = PS60 **G** = PS90 **H** = PS115 **J** = PV040TA **K** = PV60TA **L** = PV090TA **M** = PV115TA

Gearhead ratio and mounting orientation: (Replace "x" to specify)

1 = ratio 3:1 **2** = ratio 5:1 **3** = ratio 10:1

* 3:1 ratio not available on "J" PV040TA gearhead

² Use order code ^⑩ (see Ordering Information) to specify appropriately sized motor mounting kit.

Limit & Home Sensors

The HMR uses Parker's Global Sensor line, which can be mounted in the longitudinal t-slots running along the actuator body. These sensors mount flush to the extrusion body, minimizing the overall width of the actuator.

Parker's Global Sensors feature short circuit protection, power up pulse protection, and reverse polarity protection.

The sensor cable can be concealed under the yellow T-slot covers which are provided with each unit.

For internally configured sensors, the cables are routed internally and exit and the end cap of the unit through industrially hardened M8 connectors.



In the event internal sensors are configured, they cannot be re-positioned in the field. The pre-set location is configured in the part number model code. Please consult factory for further assistance.

Permanent magnets integrated into the carriage assembly actuate the sensors as the carriage traverses it linear travel.

All actuators pre-configured with a sensor pack, come pre-configured with a 5 meter extension cable, with flying leads.

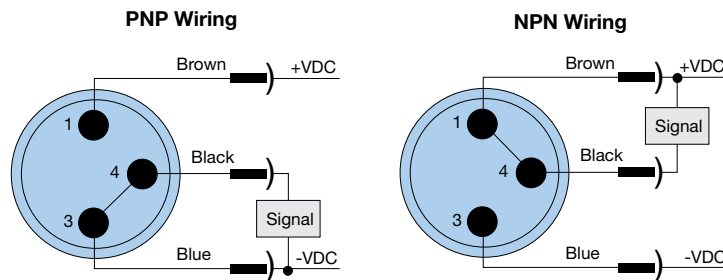
Common Specifications:

Electric current drain: 100 mA (max)

Switching current: 10 mA (max)

Supply voltage: 10 – 30 VDC

Switching Frequency: 1 kHz

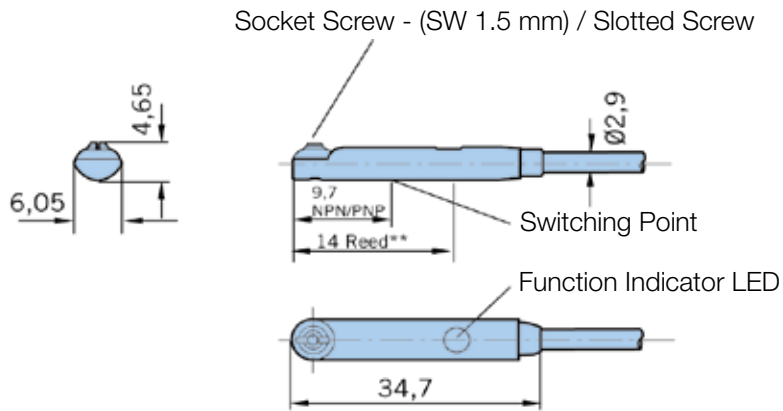


Magnetic LED Cylinder Sensors

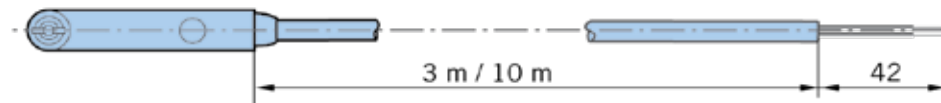
Model Number	Function	Logic	Cable
P8SAGPFAX	N.O.	PNP	3 m
P8SAGNFAX		NPN	
P8SAGPCHX		PNP	0.3 m cable with M8 connector*
P8SAGNCHX		NPN	
P8SAGQFAX	N.C.	PNP	3 m
P8SAGMFAX		NPN	
P8SAGQCHX		PNP	0.3 m cable with M8 connector*
P8SAGMCHX		NPN	

* 003-2918-01 is a 5 m extension cable to flying leads for these cables

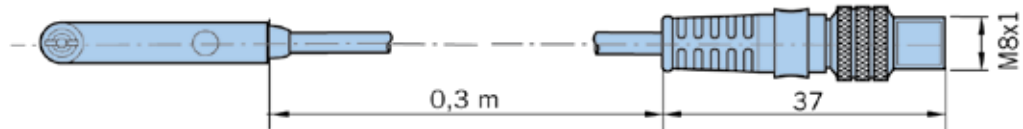
Limit & Home Sensor Dimensions



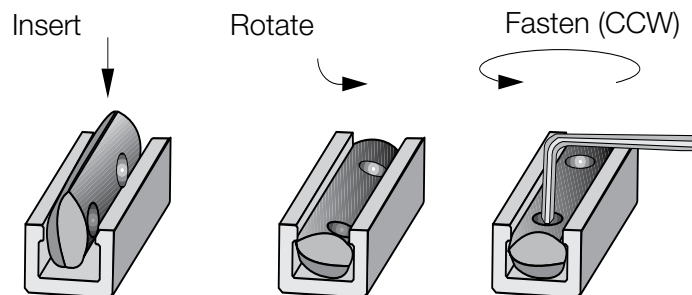
P8S-... cable with flying leads



P8S-... cable with M8 rotatable



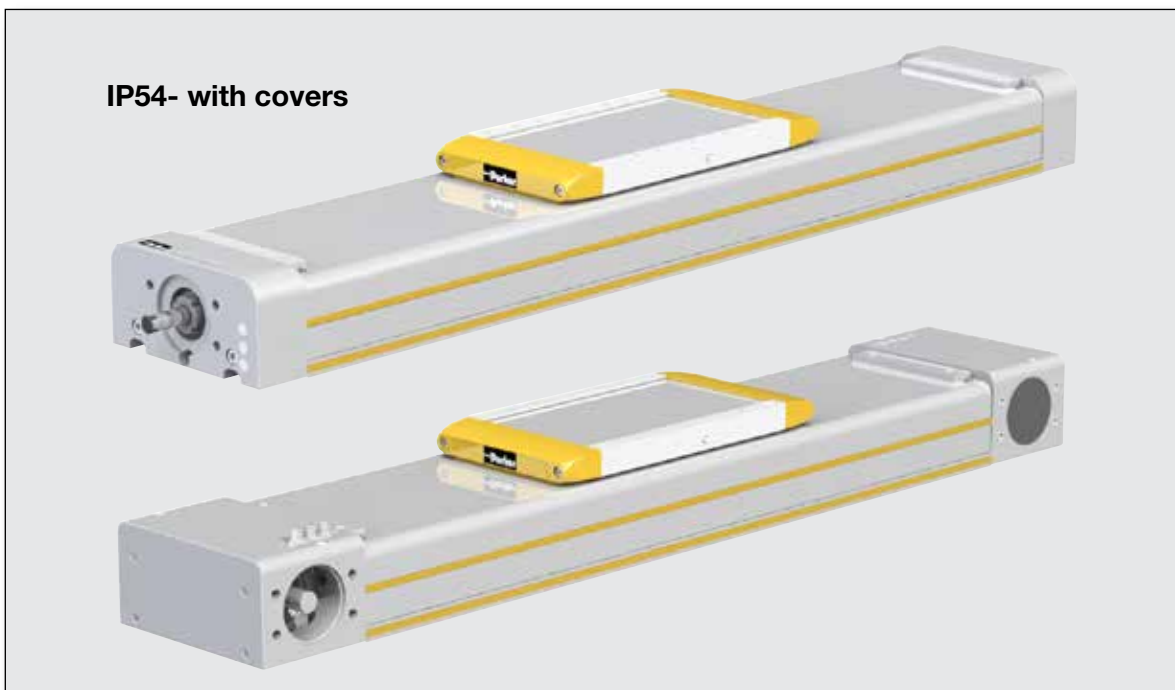
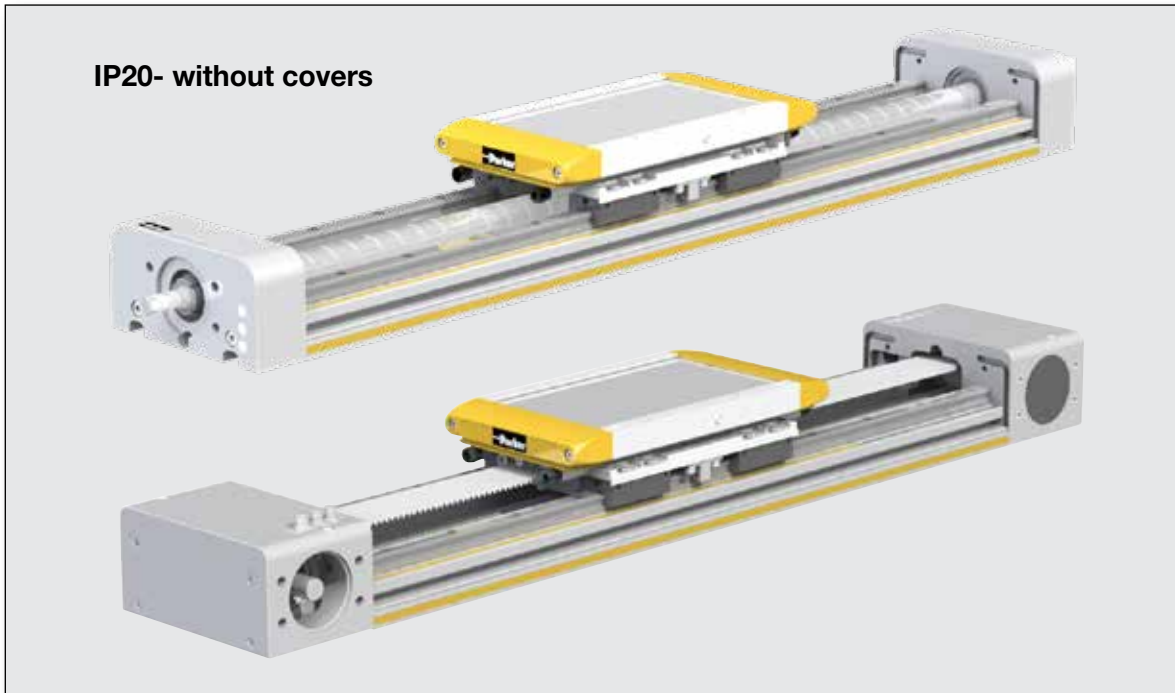
Installation for Magnetic T-Slot Sensors



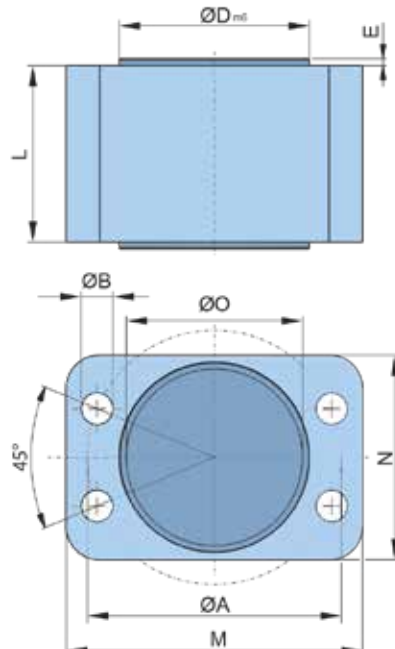
Protective Cover Options

Two Versions Available: Covers can be field retro-fitted if initially configured without covers.

Consult maintenance manual or factory support for assistance in specifying replacement covers and installation procedures.



Coupling Housing



Dimension table - Coupling housing long HMRS / HMRB [mm]

Product size	$\varnothing A$	$\varnothing B$	$\varnothing D_{m6}$	E	$\varnothing O$	L	M	N	Order no.
HMRx08 ⁽¹⁾	42	4.5	34	2	30	28	49	37	56568FIL
HMRx11 ⁽¹⁾	51	6.6	39	1	35	37	60	42	56566FIL
HMRx15 ⁽¹⁾	72	9.0	54	2	50	54	84	58	50353FIL
HMRx18 ⁽¹⁾	80	9.0	64	2	60	70	90	68	50655FIL
HMRx24 ⁽¹⁾	95	11.0	80	2	77	85	107	85	56415FIL

⁽¹⁾Suitable for all types of HMRS

⁽¹⁾Suitable for HMRB with motor orientation 000° top
(HMRBxxxAP; HMRBxxxAD)

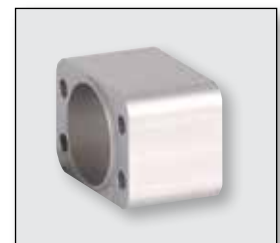
⁽¹⁾Suitable for HMRB with motor orientation 180° bottom and profile version Basic
(HMRBxxBCP; HMRBxxBCD; HMRBxxCCP; HMRBxxCCD)

Dimension table - Coupling housing short HMRB [mm]

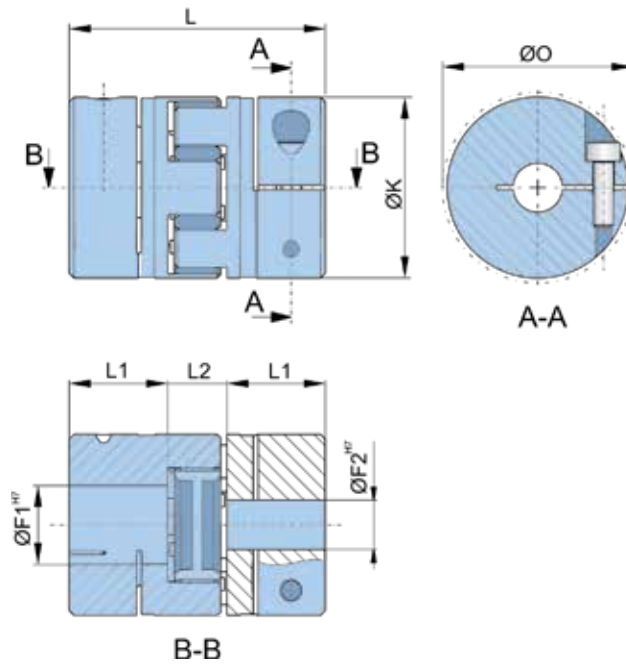
Product size	$\varnothing A$	$\varnothing B$	$\varnothing D_{m6}$	E	$\varnothing O$	L	M	N	Order no.
HMRB08 ⁽¹⁾	42	4.5	34	2	30	13	49	37	56567FIL
HMRB08 ⁽²⁾	42	4.5	34	2	30	17	49	37	56569FIL
HMRB11 ^{(1) (2)}	51	6.6	39	1	35	15	60	42	56565FIL
HMRB15 ^{(1) (2)}	72	9.0	54	2	50	30	84	58	56412FIL
HMRB18 ^{(1) (2)}	80	9.0	64	2	60	42	90	68	56413FIL
HMRB24 ^{(1) (2)}	95	11.0	80	2	77	60	107	85	56414FIL

⁽¹⁾Suitable for HMRB with motor orientation 090° front and 270° rear
(HMRBxxBD; HMRBxxDD)

⁽²⁾Suitable for HMRB with motor orientation 180° bottom re-inforced profile
(HMRBxxRCP; HMRBxxRCD; HMRBxxSCP; HMRBxxSCD)



Coupling



Ball screw

Dimension table - motor coupling HMRS [mm]

Product size	F ₁	F ₂	F	K	L	L ₁	L ₂	Ø O	Order no.
HMRS08	6	9	5 - 12	25	34	11	12	27.5	56562FIL
HMRS11	10	9	6 - 16	30	35	11	13	32.5	13210FIL
HMRS15	12	9	8 - 24	40	66	25	16	58.0	56400FIL
HMRS18	15	14	10 - 28	55	78	30	18	68.0	56402FIL
HMRS24	20	14	14 - 38	65	90	35	20	73.0	56510FIL

Belt

Dimension table - motor coupling HMRB [mm]

Product size	F ₁	F ₂	F	K	L	L ₁	L ₂	Ø O	Order no.
HMRB08	10	9	5 - 12	25	34	11	12	27.5	56563FIL
HMRB11	12	9	6 - 16	30	35	11	13	32.5	56560FIL
HMRB15	15	10	8 - 24	40	66	25	16	58.0	16239FIL
HMRB18	18	14	10 - 28	55	78	30	18	68.0	56411FIL
HMRB24	24	15	14 - 38	65	90	35	20	73.0	16260FIL



Shock Absorbing Bumper

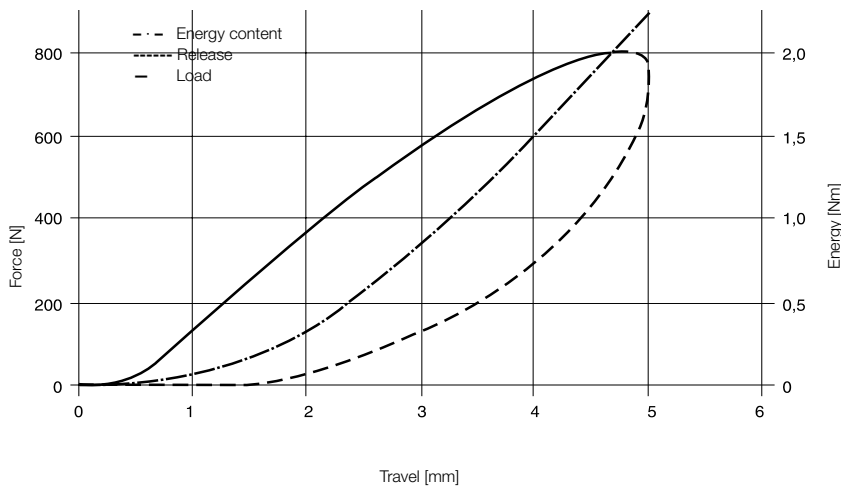
HMR actuators come factory installed with impact protection bumpers. These carriage mounted bumpers can compensate the energy released by unintentional impact and afford some protection against mechanical damage.

Two bumpers (four total) are fitted to each side of the carriage.

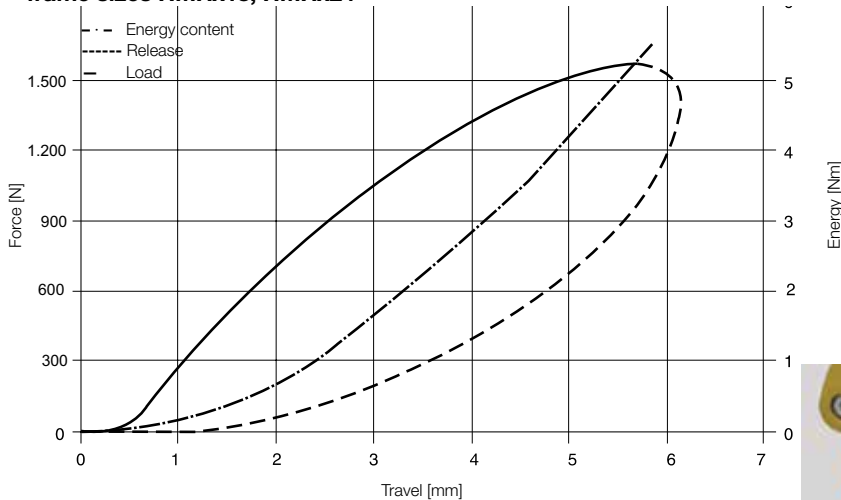
Shock absorbers for impact protection

Product size		HMRx08	HMRx11	HMRx15	HMRx18	HMRx24
Shock absorber		TA12-5	TA12-5	TA12-5	TA17-7	TA17-7
Energy absorption	[Nm/stroke]	3.0	3.0	3.0	8.5	8.5

Distance-force and energy-distance characteristic curve (dynamic) – frame sizes HMRx08, HMRx11, HMRx15



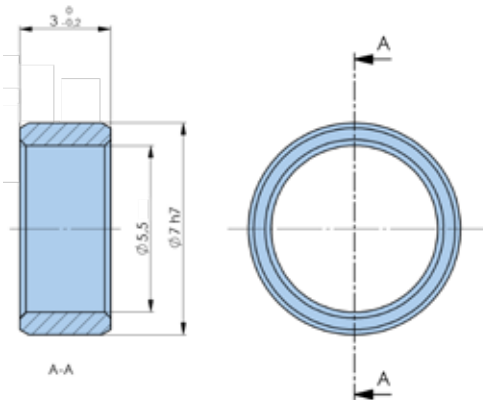
Distance-force and energy-distance characteristic curve (dynamic) – frame sizes HMRx18, HMRx24



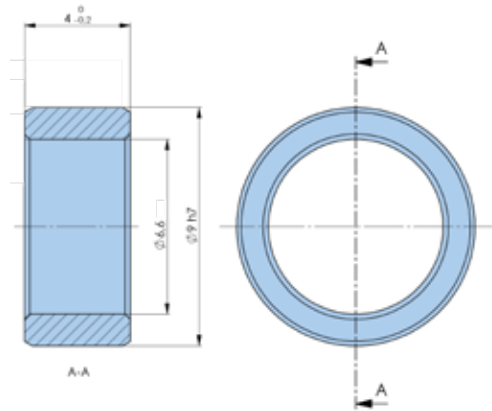
Dowel Sleeves

Dowel sleeves can be used to provide pinning functionality between the carriage mounting surface and the payload. These sleeves have a tightly toleranced outer diameter to accurately locate between the bore in the carriage and the end effector, but have a hollow center granting access to the threaded hole in the carriage underneath the pin bore. This means that these dowel pin bore can additionally function as a threaded connection to the carriage. See Dimensions for carriage mounting detail.

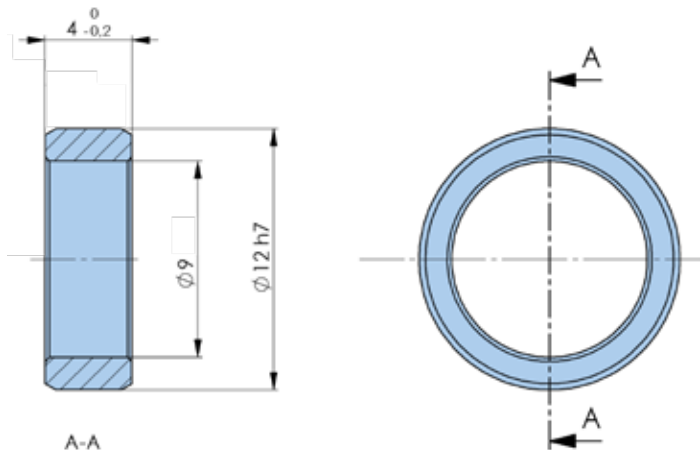
7mm Outer Diameter Dowel Sleeve



9mm Outer Diameter Dowel Sleeve

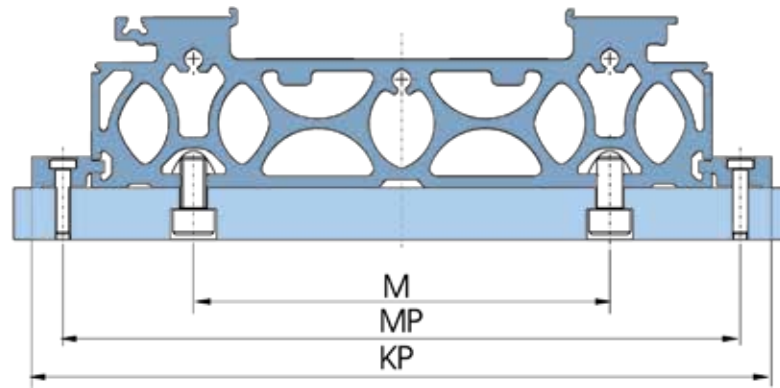


12mm Outer Diameter Dowel Sleeve



Part Number	Description	HMR Frame Size
56455FIL	7mm Dowel Sleeve- 4 Pack	HMRx08, HMRx11, HMRx15
56456FIL	7mm Dowel Sleeve- 10 Pack	HMRx08, HMRx11, HMRx15
56457FIL	9mm Dowel Sleeve- 4 Pack	HMRx18
56458FIL	9mm Dowel Sleeve- 10 Pack	HMRx18
56459FIL	12mm Dowel Sleeve- 4 Pack	HMR24

Actuator Mounting



Dimension table - Product width HMR [mm]

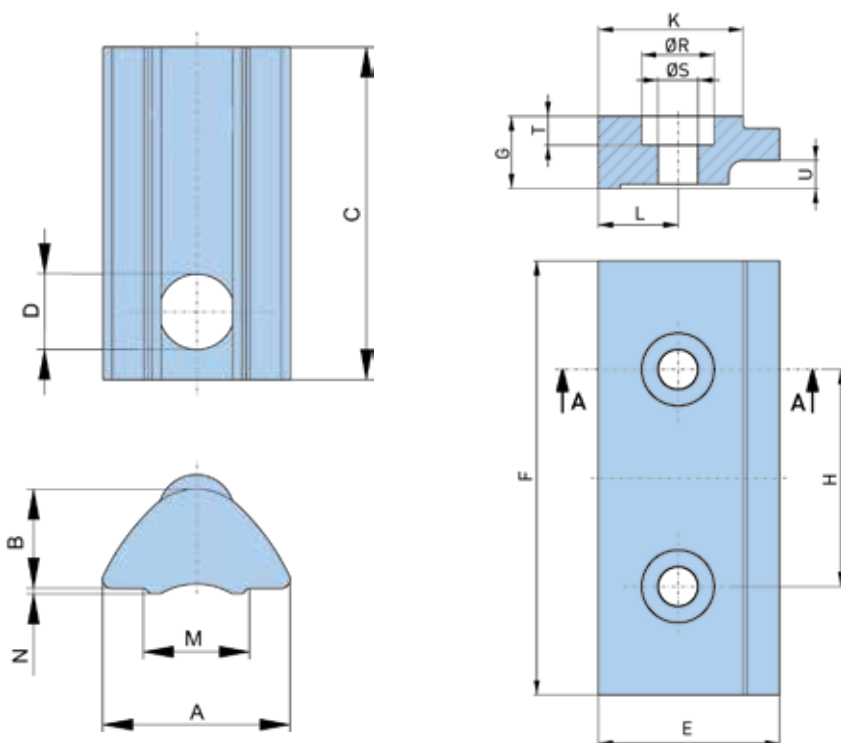
Product size	Toe-clamp mounting (mm)		T-nut mounting (mm)
	MP	KP	M
HMRx08	97	115	50
HMRx11	122	140	70
HMRx15	170	190	96
HMRx18	202	226	116
HMRx24	262	286	161

Holding force per mounting set [N]

Product size	In longitudinal direction of the actuator*	Toe-clamp			In longitudinal direction of the actuator*	T-nut		
		Screw 2x	Tightening torque [Nm]	Max. load per screw		Screw 1x	Tightening torque [Nm]	Max. load per screw
HMRx08	800	M4	3	900	1,000	M5	6	1,200
HMRx11	800	M4	3	900	1,000	M5	6	1,200
HMRx15	1,820	M5	6	1,200	1,600	M6	10	1,700
HMRx18	2,610	M6	10	1,700	2,700	M8	20	3,400
HMRx24	2,610	M6	10	1,700	3,200	M10	40	5,500

*A friction factor of 0.15 between profile and mounting surface was taken as a basis for the calculation of the forces that can be transmitted in longitudinal direction, Screw property class 8.8.

Actuator Mounting



Dimension table - T-nut mounting HMR [mm]

Product size	A	B	C	Ø D	M	N	Order no. *
HMRx08	8.0	4.0	11.5	M5	5.0	0.5	56351FIL
HMRx11	8.0	4.0	11.5	M5	5.0	0.5	56351FIL
HMRx15	10.5	6.4	22.5	M6	6.4	0.6	56352FIL
HMRx18	13.5	6.7	22.5	M8	8.5	1.0	56353FIL
HMRx24	16.5	8.9	28.5	M10	10.5	1.0	56354FIL

* Packing unit 10 pc

Dimension table - Toe-clamp mounting HMR [mm]

Product size	E	F	G	H	K	L	Ø R	Ø S	T	U	Order no. *
HMRx08	18.0	40.0	7.5	20.0	15.0	9.0	0.0	4.5	0.0	2.8	56363FIL
HMRx11	18.0	40.0	7.5	20.0	15.0	9.0	0.0	4.5	0.0	2.8	56363FIL
HMRx15	25.0	60.0	10.0	30.0	20.0	10.0	10.0	5.5	4.0	3.9	56355FIL
HMRx18	28.0	80.0	12.0	40.0	23.0	12.0	11.0	6.6	4.7	5.9	56356FIL
HMRx24	28.0	80.0	12.0	40.0	23.0	12.0	11.0	6.6	4.7	5.9	56356FIL

* Packing unit 1 pair (2 toe-clamps) and associated hardware

ORDERING INFORMATION

HMRB

ORDERING INFORMATION

Select an order code from each of the numbered fields to create a complete HMR belt-driven model order number. Include hyphens and non-selective characters as shown in example below.

			①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
Order Number Example:	HMR	B	15	B	BD	0	-	1000	-	A	B	1 0 0 F1 A7

① Frame Size (Profile Width)

8	85 mm
11	110 mm
15	150 mm
18	180 mm
24	240 mm

② Actuator Design (see Dimensions for further detail)

B	Basic Profile with Ball Bearing Guide, No Outer Cover
C	Basic Profile with Ball Bearing Guide, IP54 with Outer Cover
R**	Reinforced Profile with Ball Bearing Guide, No Outer Cover
S**	Reinforced Profile with Ball Bearing Guide, IP54 with Outer Cover

③ Motor Mounting Position and Drive Shaft Design (see Options & Accessories for further detail)

BD	90° Front with Double Plain Shaft
DD	270° Back with Double Plain Shaft
AP**	0° Up with Single Plain Shaft
CP**	180° Down with Single Plain Shaft
AD**	0° Up with Double Plain Shaft
CD**	180° Down with Double Plain Shaft

④ Carriage Design

0	Standard
1	Tandem
2	Bi-parting (Not available with ③ BD and DD options)

⑤ Order Stroke

xxxx 4 digit input in mm (see max stroke by frame size in Specifications)

NOTE: If travel is less than 75mm either Home or Limit Sensors can be used, not both. If travel is less than 20mm, only a Home Sensor can be used.

⑥ Home Sensor* (one sensor)

0	No home sensor
A**	PNP, 3 Wire, N.O., Internal Mounting
K**	NPN, 3 Wire, N.O., Internal Mounting
C	PNP, 3 Wire, N.O., M8 Plug, 0.3 m Cable, External Mounting (P8S-GPCHX)
M	NPN, 3 Wire, N.O., M8 Plug, 0.3 m Cable, External Mounting (P8S-GNCHX)

*P/N 003-2918-01, 5 M extension cable included

***If internal switches are selected they cannot be manually re-positioned in the field.**

****Indicates longer lead time option**

⑦ Limit Sensor* (two sensors)

0	No home sensor
B**	PNP, 3 Wire, N.C., Internal Mounting
L**	NPN, 3 Wire, N.C., Internal Mounting
D	PNP, 3 Wire, N.C., M8 Plug, 0.3 m Cable, External Mounting (P8S-GQCHX)
N	NPN, 3 Wire, N.C., M8 Plug, 0.3 m Cable, External Mounting (P8S-GMCHX)

*P/N 003-2918-01, 5 M extension cable included

***If internal switches are selected they cannot be manually re-positioned in the field.**

⑧ Limit/Home Sensor Position*

0	No Home Sensor
1	10 mm
2	20 mm
3	30 mm
4	40 mm
5	50 mm
6	60 mm
7	70 mm
8	80 mm
9	90 mm
A	100 mm
B	110 mm
C	120 mm
D	130 mm
E	140 mm
F	150 mm
G	160 mm
H	170 mm
J	180 mm
K	190 mm
L	200 mm

*If limit and home sensors selected, this is the distance that limit sensors are positioned from both ends, home sensor positioned 50mm from limit sensor at drive end. If only home sensor selected, it is positioned this distance from the drive end.

⑨ Mounted Gearhead

see Options & Accessories for frame size availability and dimensions)

⑩ Gearhead and Motor Mounting Kits

Gearhead Mounting Kit

(see Options & Accessories for availability and dimensions)

Motor Mounting Kit (Including Flange and Coupling For Direct Drive Motor or Flange on Mounted Gearhead)

(see Options & Accessories for availability and dimensions)

Mounted Gearhead and Motor

(see Options & Accessories for availability and dimensions)