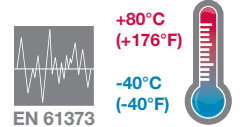
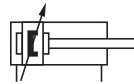


- > Ø 32 ... 125 mm
- > High performance, stability and reliability
- > M/50 switches can be mounted flush with the profile
- > Cylinders and mountings conform to ISO 15552 (ISO 6431, VDMA 24562 and NFE 49-003-1)
- > Comprehensive range of mountings
- > PUR seals ensure efficient low friction operation and long life
- > Wide temperature range
- > Shock and vibration tested to EN 61373, Category 1, class A and B



Technical features

Medium:

Compressed air, filtered, lubricated or non-lubricated

Standard:

ISO 15552

Operation:

Double acting, adjustable cushioning and magnetic piston

Operating pressure:

1 ... 16 bar (14 ... 232 psi)

Ports:

1/8" ... 1/2" ISO G parallel/NPT

Cylinder diameters:

32, 40, 50, 63, 80, 100, 125 mm

Strokes:

See page below

Non-standard strokes:

Available (10 ... 3000 mm)

Operating temperature:

-40 ... +80°C max. (-40 ... +176 °F)

Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).

Materials:

Profile barrel: anodised aluminium,
End covers: pressure diecast aluminium
Piston rod: stainless steel (martensitic)
Piston rod seals: PUR
Piston seals: PUR
O-rings: NBR

Technical data

Cylinder Ø (mm)	32	40	50	63	80	100	125
Port size	1/8"	1/4"	1/4"	3/8"	3/8"	1/2"	1/2"
Piston rod Ø (mm)	12	16	20	20	25	25	32
Piston rod thread	M10 x 1,25	M12 x 1,25	M16 x 1,5	M16 x 1,5	M20 x 1,5	M20 x 1,5	M27 x 2
Cushion length (mm)	19	22	24	24	27	34	41
Initial cushion volume (cm³)	12,3	20,7	36	64	116	242	451
Theoretical thrusts at 6 bar outstroke (N)	482	754	1178	1870	3016	4710	7363
Theoretical thrusts at 6 bar instroke (N)	414	633	990	1680	2722	4416	6882
Air consumption at 6 bar outstroke (l/cm)	0,056	0,088	0,137	0,218	0,35	0,55	0,86
Air consumption at 6 bar instroke (l/cm)	0,048	0,074	0,114	0,195	0,32	0,51	0,79

Standard strokes

Cylinder Ø (mm)	Stroke length (mm)											
	25	50	80	100	125	160	200	250	320	400	500	
32	•	•	•	•	•	•	•	•	•	•	•	
40	•	•	•	•	•	•	•	•	•	•	•	
50	•	•	•	•	•	•	•	•	•	•	•	
63	•	•	•	•	•	•	•	•	•	•	•	
80	•	•	•	•	•	•	•	•	•	•	•	
100	•	•	•	•	•	•	•	•	•	•	•	
125	•	•	•	•	•	•	•	•	•	•	•	

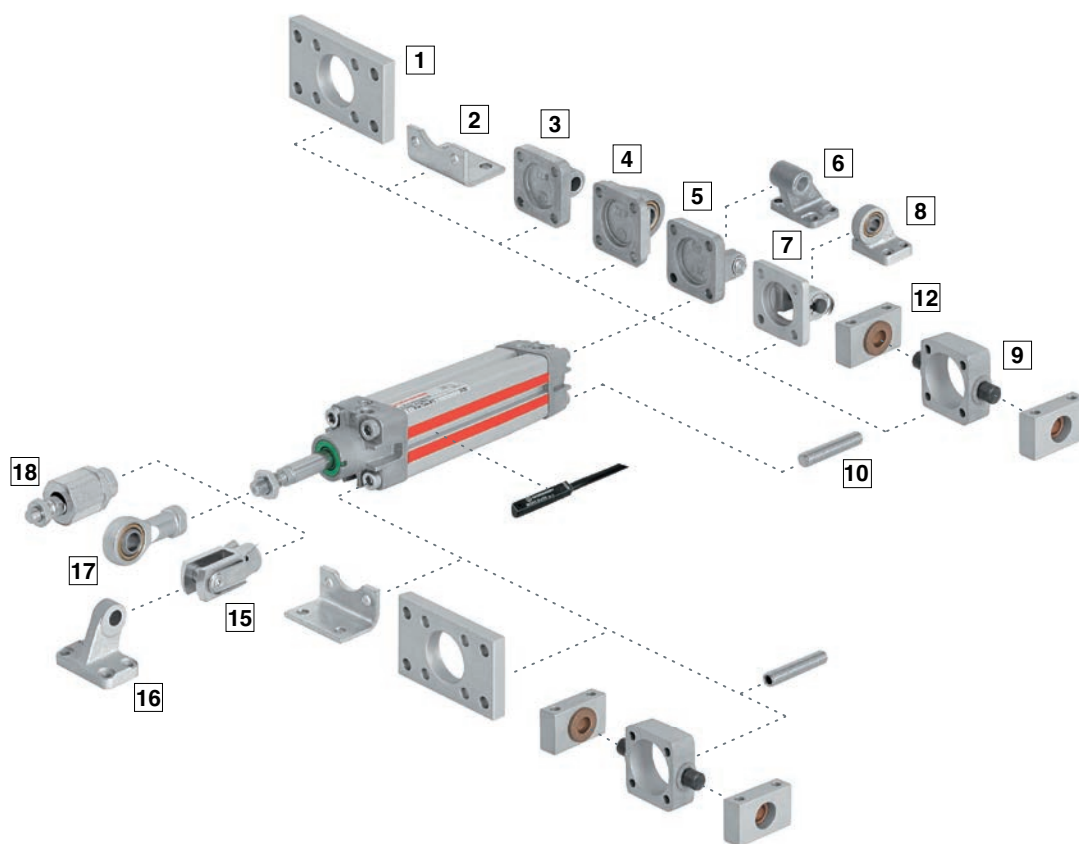
Option selector

Piston rod material	Substitute
Stainless steel martensitic (standard)	R
Hard chromium plated	C
Stainless steel austenitic	S
Thread form	Substitute
ISO G parallel	A
NPT	C
Cylinder Ø	Substitute
032, 040, 050, 063, 080, 100, 125	

LP**/182***/**/**

Strokes (mm)	Substitute
3000 max.	
Variants (magnetic piston)	Substitute
Standard	M
Piston rod bellow	MG
Without cushion	MW
Double ended piston rod	JM
Four-position cylinder	MT
Extended piston rod	MU
LP**/182***/MU/***/**	Extension (mm)

Mountings and service kit



Position	Style	Standard	Position	Style	Standard
1	B, G	Clear anodised aluminium	9	FH	Cast iron
2	C	Galvanized steel (ø 32 ... 63 mm), Painted steel (ø 80 & 100 mm)	10	A	Galvanized steel
3	R	Die-cast aluminium	11	UH	Black anodised aluminium bar stock Groove key and bolt: Galvanized steel
4	UR	Galvanized aluminium Inner ring: steel Outer ring: brass	12	S	Clear anodised aluminium Bearing: brass
5	D	Die-cast aluminium Bolt: galvanized steel (martensitic) Circlip: galvanized steel	15	F	Galvanized steel Bolt: galvanized steel Circlip: Galvanized steel
6	SW	Die-cast aluminium	16	SS	Painted cast iron
7	US	Galvanized aluminium. Inner ring: steel Outer ring: brass	17	UF	Galvanized steel. Inner ring: steel Outer ring: brass
8	D2	Painted cast iron. Bolt: stainless steel (martensitic) Circlip: galvanized steel	18	AK	Galvanized steel

Mountings

Model	A	AK	B, G	C	D	D2	F	FH
								
Cyl. Ø	10 Page 6	18 Page 6	1 Page 6	2 Page 6	5 Page 6	8 Page 7	15 Page 7	9 Page 7
32	QM/8032/35	QM/8025/38	QA/8032/22	QA/8032/21	QA/8032/23	QA/8032/42	QM/8025/25	QA/8032/34
40	QM/8032/35	QM/8040/38	QA/8040/22	QA/8040/21	QA/8040/23	QA/8040/42	QM/8040/25	QA/8040/34
50	QM/8050/35	QM/8050/38	QA/8050/22	QA/8050/21	QA/8050/23	QA/8050/42	QM/8050/25	QA/8050/34
63	QM/8050/35	QM/8050/38	QA/8063/22	QA/8063/21	QA/8063/23	QA/8063/42	QM/8050/25	QA/8063/34
80	QM/8080/35	QM/8080/38	QA/8080/22	QA/8080/21	QA/8080/23	QA/8080/42	QM/8080/25	QA/8080/34
100	QM/8080/35	QM/8080/38	QA/8100/22	QA/8100/21	QA/8100/23	QA/8100/42	QM/8080/25	QA/8100/34
125	QM/8125/35	QM/8125/38	QM/8125/22	QM/8125/21	QM/8125/23	QA/8125/42	QM/8125/25	QA/8125/34
	R	S	SS	SW	UF	UR	US	
								
Cyl. Ø	3 Page 7	12 Page 7	16 Page 8	6 Page 8	17 Page 7	4 Page 7	7 Page 8	
32	QA/8032/27	QA/8032/41	M/P19931	M/P19493	QM/8025/32	QA/8032/33	M/P40310	
40	QA/8040/27	QA/8040/41	M/P19932	M/P19494	QM/8040/32	QA/8040/33	M/P40311	
50	QA/8050/27	QA/8040/41	M/P19933	M/P19495	QM/8050/32	QA/8050/33	M/P40312	
63	QA/8063/27	QA/8063/41	M/P19934	M/P19496	QM/8050/32	QA/8063/33	M/P40313	
80	QA/8080/27	QA/8063/41	M/P19935	M/P19497	QM/8080/32	QA/8080/33	M/P40314	
100	QA/8100/27	QA/8100/41	M/P19936	M/P19498	QM/8080/32	QA/8100/33	M/P40315	
125	QM/8125/27	QA/8100/41	M/P19937	M/P19499	QM/8125/32	QM/8125/33	M/P71355	

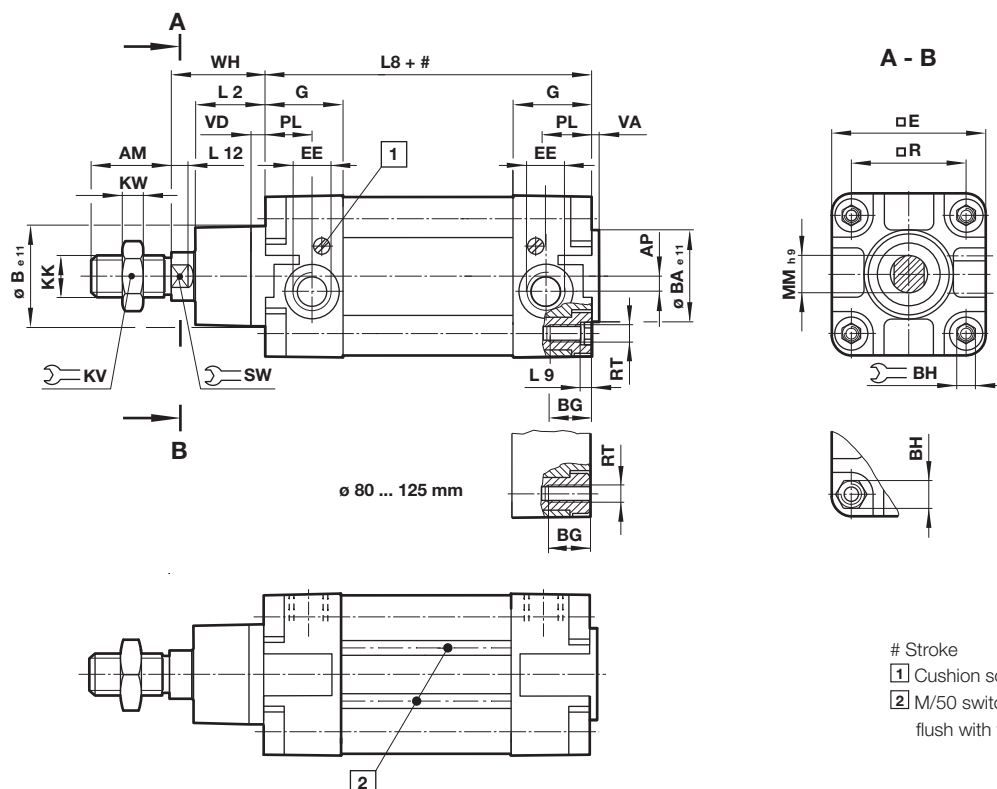
Service kit

Groove cover 	
Cyl. Ø	
32	LQA/8032/00
40	LQA/8040/00
50	LQA/8050/00
63	LQA/8063/00
80	LQA/8080/00
100	LQA/8100/00
125	LQA/8125/00

Basic dimensions

LPRA/182000/M – Standard cylinder

Dimensions in mm
Projection/First angle

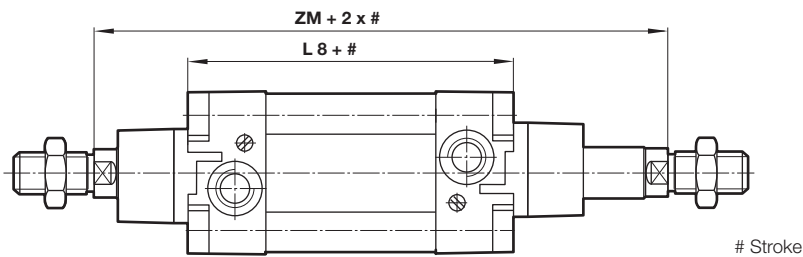


Ø	AM	AP	Ø B e11	Ø BA e11	BG	BH	Ø E	EE	G	KK	KV	KW	L2	L8	L9
32	22	3,5	30	30	16	6	47	G 1/8	27,5	M10x1,25	17	5	20	94	4
40	24	4,5	35	35	16	6	53	G 1/4	32	M12x1,25	19	6	22	105	4
50	32	6	40	40	16	8	65	G 1/4	31	M16x1,5	24	8	27	106	5
63	32	10	45	45	16	8	75	G 3/8	33	M16x1,5	24	8	29	121	5
80	40	8,5	45	45	17	19	95	G 3/8	33	M20x1,5	30	10	33	128	-
100	40	9	55	55	17	19	115	G 1/2	37	M20x1,5	30	10	36	138	-
125	54	10	60	60	20	24	140	G 1/2	46	M27x2	41	13,5	45	160	-
Ø	L12	Ø MM h9	PL	Ø R	RT	SW	VA	VD	WH	at 0 mm	per 25 mm	Model magnetic piston			
32	6	12	13	32,5	M 6	10	3	6	26	0,51 kg	0,06 kg	LPR‡/182032/M/*			
40	6,5	16	15	38	M 6	13	3,5	6	30	0,80 kg	0,08 kg	LPR‡/182040/M/*			
50	8	20	18,5	46,5	M 8	17	3,5	6	37	1,33 kg	0,12 kg	LPR‡/182050/M/*			
63	8	20	19	56,5	M 8	17	4	6	37	1,80 kg	0,13 kg	LPR‡/182063/M/*			
80	10	25	19	72	M 10	22	4	6	46	3,25 kg	0,20 kg	LPR‡/182080/M/*			
100	10	25	18	89	M 10	22	4	6	51	4,81 kg	0,23 kg	LPR‡/182100/M/*			
125	13	32	20	110	M 12	27	6	15,5	65	8,00 kg	0,33 kg	LPR‡/182125/M/*			

* Please insert standard stroke length.

‡ Please insert 'A' for ISO G parallel or 'C' for NPT threads.

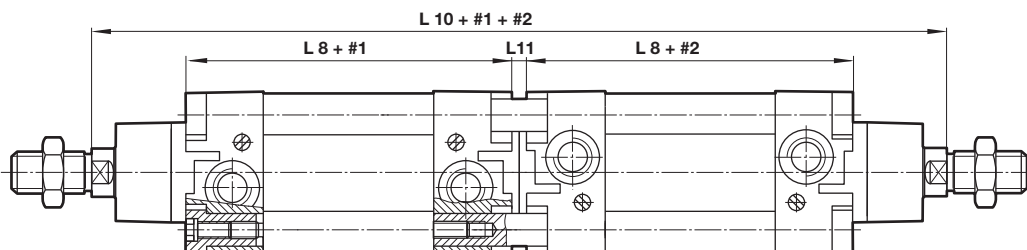
Cylinder variants
LPRA/182000/JM – Cylinder with double ended piston rod

 Dimensions in mm
Projection/First angle


Ø	ZM	L8	Model magnetic piston
32	146	94	LPR‡/182032/JM/*
40	165	105	LPR‡/182040/JM/*
50	180	106	LPR‡/182050/JM/*
63	195	121	LPR‡/182063/JM/*
80	220	128	LPR‡/182080/JM/*
100	240	138	LPR‡/182100/JM/*
125	290	160	LPR‡/182125/JM/*

* Please insert standard stroke length.

‡ Please insert 'A' for ISO G parallel or 'C' for NPT threads.

LPRA/182000/MT – Four-position cylinder


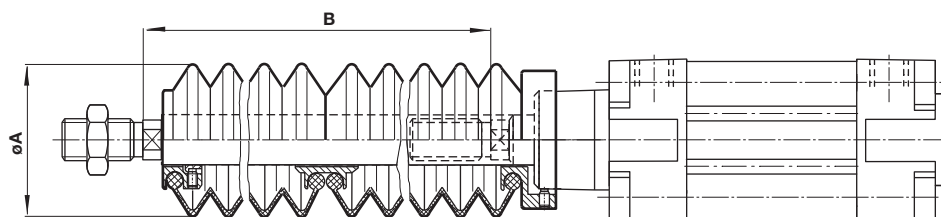
Ø	L 8	L 10	L 11	Model magnetic piston
32	94	247	7	LPR‡/182032/MT/***
40	105	278	8	LPR‡/182040/MT/***
50	106	294	8	LPR‡/182050/MT/***
63	121	325	9	LPR‡/182063/MT/***
80	128	357	9	LPR‡/182080/MT/***
100	138	387	9	LPR‡/182100/MT/***
125	160	462	12	LPR‡/182125/MT/***

Stroke length 1 and stroke length 2

* Please insert standard stroke length 1

** Please insert standard stroke length 2

‡ Please insert 'A' for ISO G parallel or 'C' for NPT threads.

PRA/182000/G, PRA/182000/MG – Piston rod bellow


Ø	Ø A	Max. stroke per bellow	Piston rod extension B for first bellow	for further bellow	Model magnetic piston
32	40	60	30	25	LPR‡/182032/MG/*
40	63	145	50	32	LPR‡/182040/MG/*
50	63	145	40	32	LPR‡/182050/MG/*
63	63	145	40	32	LPR‡/182063/MG/*
80	80	250	50	45	LPR‡/182080/MG/*
100	80	250	50	45	LPR‡/182100/MG/*
125	80	250	50	45	LPR‡/182125/MG/*

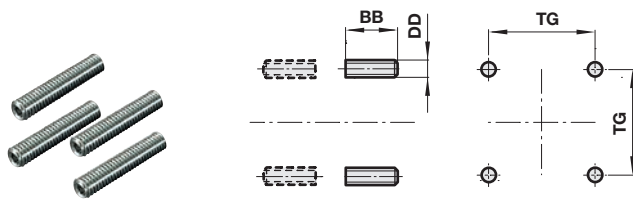
* Please insert standard stroke length.

‡ Please insert 'A' for ISO G parallel or 'C' for NPT threads.

Mountings

Front or rear stud mounting A

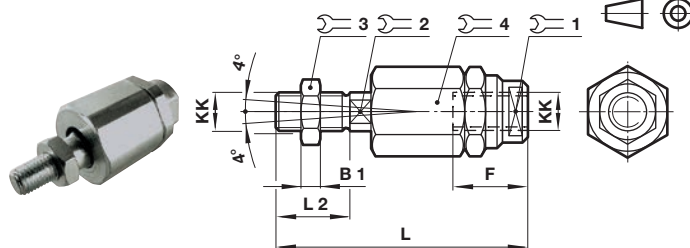
Conforms to ISO 15552, type MX1



Ø	BB	DD	TG	kg	Model (A)
32/40	17	M6	32,5/38	0,02	QM/8032/35
50/63	23	M8	46,5/56,5	0,05	QM/8050/35
80/100	28	M10	72/89	0,08	QM/8080/35
125	34	M12	110	0,14	QM/8125/35

Piston rod swivel AK

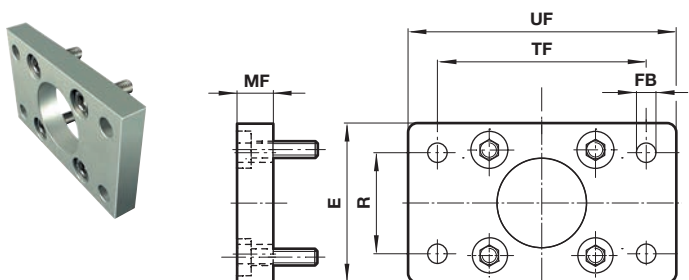
Dimensions in mm
 Projection/First angle



Ø	KK	B1	F	L	L2	1	2	3	4	kg	Model (AK)
32	M10x1,25	5	26	73	20	19	12	17	30	0,20	QM/8025/38
40	M12x1,25	6	26	77	24	19	12	19	30	0,20	QM/8040/38
50/63	M16x1,5	8	34	106	32	30	19	24	42	0,65	QM/8050/38
80/100	M20x1,5	10	42	122	40	30	19	30	42	0,72	QM/8080/38
125	M27x2	13,5	40	147	54	40	24	41	55	1,70	QM/8125/38

Front flange B, G

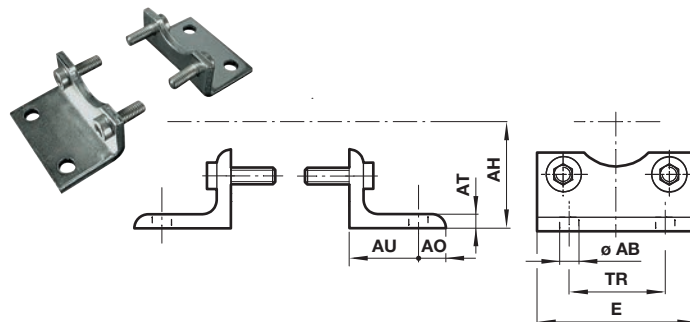
Conforms to ISO 15552, type MF1 and MF2



Ø	E	Ø FB	MF	R	TF	UF	kg	Model (B, G)
32	50	7	10	32	64	80	0,25	QA/8032/22
40	55	9	10	36	72	90	0,35	QA/8040/22
50	65	9	12	45	90	110	0,70	QA/8050/22
63	75	9	12	50	100	125	0,80	QA/8063/22
80	100	12	16	63	126	154	1,35	QA/8080/22
100	120	14	16	75	150	186	2,20	QA/8100/22
125	140	16	20	90	180	224	2,70	QM/8125/22

Foot mounting C

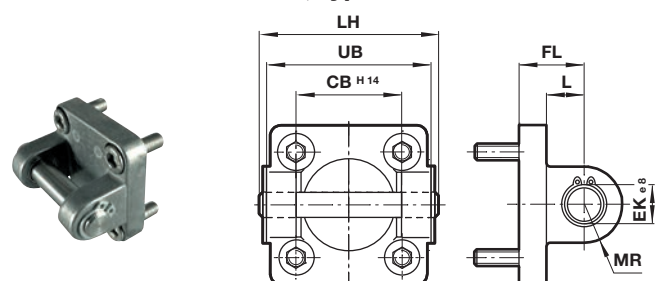
Conforms to ISO 15552, type MS1



Ø	Ø AB	AH	AO	AT	AU	E	TR	kg	Model (C)
32	7	32	8	4	24	48	32	0,15	QA/8032/21
40	10	36	9	4	28	53	36	0,18	QA/8040/21
50	10	45	10	5	32	64	45	0,30	QA/8050/21
63	10	50	12	5	32	74	50	0,39	QA/8063/21
80	12	63	19	5	41	98	63	0,80	QA/8080/21
100	14	71	19	5	41	115	75	0,95	QA/8100/21
125	16	90	20	9	45	140	90	2,40	QM/8125/21

Rear clevis D

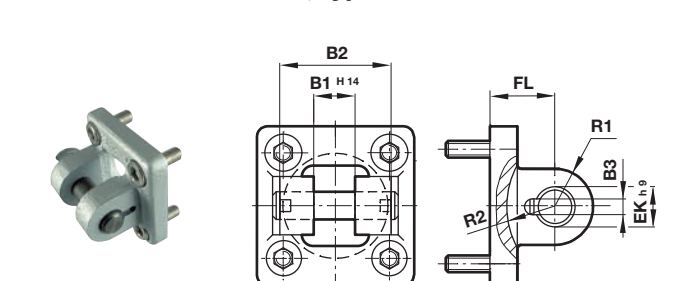
Conforms to ISO 15552, type MP2



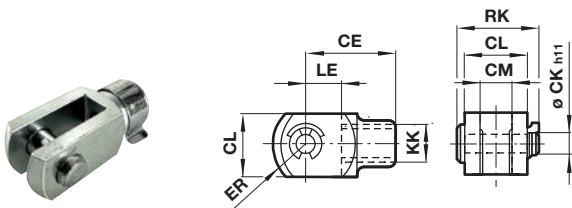
Ø	CB H14	Ø EK e8	FL	L	LH	MR	UB	kg	Model (D)
32	26	10	22	13	52	9	45	0,11	QA/8032/23
40	28	12	25	16	60	12	52	0,16	QA/8040/23
50	32	12	27	17	68	12	60	0,22	QA/8050/23
63	40	16	32	22	79	15	70	0,34	QA/8063/23
80	50	16	36	22	99	15	90	0,54	QA/8080/23
100	60	20	41	27	119	20	110	0,90	QA/8100/23
125	70	25	50	31	139	25	130	2,70	QM/8125/23

Rear clevis D2

Conforms to ISO 15552, type AB6

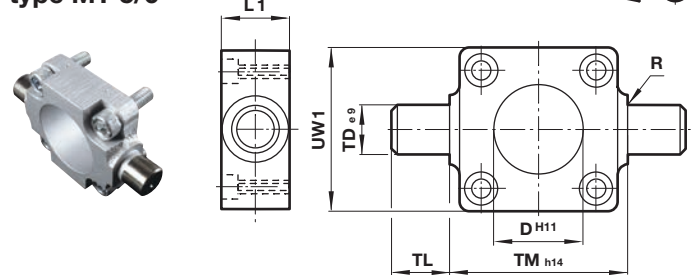


Ø	B1 H14	B2	B3	Ø EK h9	FL	R1	R2	kg	Model (D2)
32	14	34	3,3	10	22	11	17	0,20	QA/8032/42
40	16	40	4,3	12	25	12	20	0,23	QA/8040/42
50	21	45	4,3	16	27	14,5	22	0,36	QA/8050/42
63	21	51	4,3	16	32	18	25	0,55	QA/8063/42
80	25	65	4,3	20	36	22	30	0,90	QA/8080/42
100	25	75	4,3	20	41	22	32	1,45	QA/8100/42
125	37	97	6,3	30	50	30	42	2,7	QA/8125/42

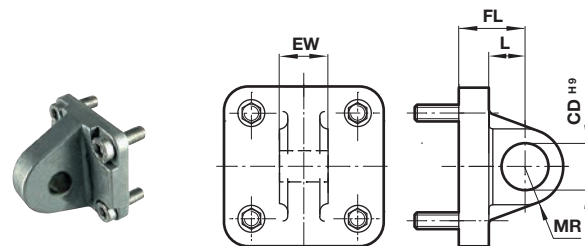
Piston rod clevis F
Conforms to DIN ISO 8140


Ø	KK	CE	Ø CK h11	CL	CM	ER	LE	RK	kg	Model (F)
32	M10x1,25	40	10	20	10	16	20	28	0,09	QM/8025/25
40	M12x1,25	48	12	24	12	19	24	32	0,13	QM/8040/25
50/63	M16x1,5	64	16	32	16	25	32	41,5	0,33	QM/8050/25
80/100	M20x1,5	80	20	40	20	32	40	50	0,67	QM/8080/25
125	M27x2	110	30	55	30	45	54	62	1,35	QM/8125/25

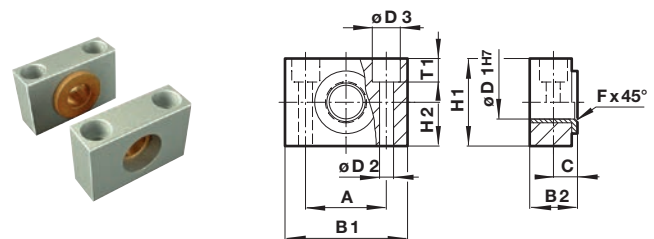
Front or rear detachable trunnion FH
Conforms to VDMA 24562 part 2,
type MT 5/6

 Dimensions in mm
 Projection/First angle


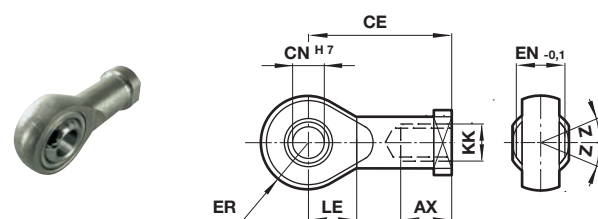
Ø	Ø D h11	L1	R	Ø TD e9	TL	TM h14	UW1	kg	Model (FH)
32	30	16	1	12	12	50	45	0,20	QA/8032/34
40	35	20	1,6	16	16	63	55	0,38	QA/8040/34
50	40	24	1,6	16	16	75	65	0,60	QA/8050/34
63	45	24	1,6	20	20	90	75	1,10	QA/8063/34
80	45	28	1,6	20	20	110	100	1,90	QA/8080/34
100	55	38	2	25	25	132	120	3,50	QA/8100/34
125	60	50	2	25	25	160	145	6,50	QA/8125/34

Rear eye R
Conforms to ISO 15552, type MP4


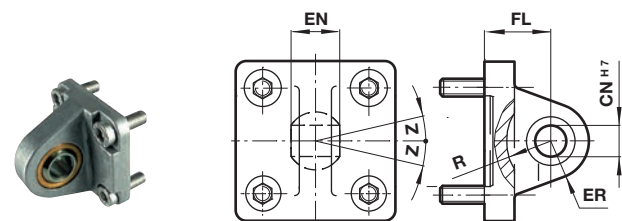
Ø	Ø CD H9	EW	FL	L	MR	kg	Model (R)
32	10	25,8	22	13	9	0,09	QA/8032/27
40	12	27,8	25	16	12	0,11	QA/8040/27
50	12	31,7	27	17	12	0,17	QA/8050/27
63	16	39,7	32	22	15	0,24	QA/8063/27
80	16	49,7	36	22	15	0,37	QA/8080/27
100	20	59,7	41	27	20	0,59	QA/8100/27
125	25	69,7	50	33	25	3,20	QM/8125/27

Trunnion support S
Conforms to ISO 15552, type AT4


Ø	A	B	C	Ø D1H7	Ø D2	Ø D3	F x 45°	H	T1	kg	Model (S)		
	1	2						1	2				
32	32	46	18	10,5	12	6,6	11	1	30	15	6,8	0,10	QA/8032/41
40/50	36	55	21	12	16	9	15	1,6	36	18	9	0,14	QA/8040/41
63/80	42	65	23	13	20	11	18	1,6	40	20	11	0,18	QA/8063/41
100/125	50	75	28,5	16	25	14	20	2	50	25	13	0,34	QA/8100/41

Universal piston rod eye UF
Conforms to DIN ISO 8139


Ø	Thread KK	AX	CE	Ø CN H7	EN -0,1	ER	LE	Z	kg	Model (UF)
32	M10x1,25	20	43	10	14	14	15	13°	0,09	QM/8025/32
40	M12x1,25	22	50	12	16	16	17	13°	0,13	QM/8040/32
50/63	M16x1,5	28	64	16	21	21	22	15°	0,33	QM/8050/32
80/100	M20x1,5	33	77	20	25	25	26	15°	0,67	QM/8080/32
125	M27x2	51	110	30	37	35	36	15°	1,35	QM/8125/32

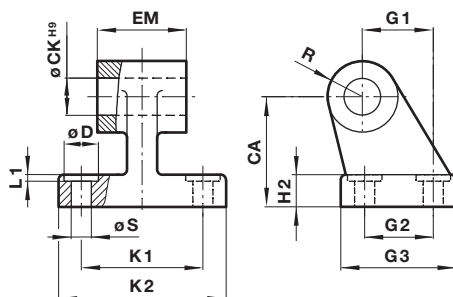
Universal rear eye UR
Conforms to ISO 15552, type MP6


Ø	Ø CN H7	EN	ER	FL	R	Z	kg	Model (UR)
32	10	14	16	22	14,5	13°	0,15	QA/8032/33
40	12	16	18	25	18	13°	0,25	QA/8040/33
50	16	21	21	27	19	15°	0,40	QA/8050/33
63	16	21	23	32	24	15°	0,55	QA/8063/33
80	20	25	28	36	24	15°	0,90	QA/8080/33
100	20	25	30	41	29	15°	1,50	QA/8100/33
125	30	37	40	50	36	15°	2,70	QM/8125/33

Wide hinge SW

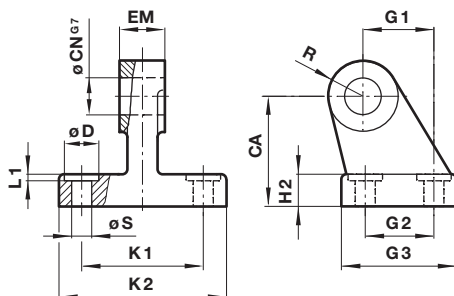
Conforms to ISO 15552, type AB7

Dimensions in mm
 Projection/First angle



Ø	CA	Ø CK H9	Ø D	H2	EM	G1	G2	G3	K1	K2	L1	R	Ø S	kg	Model (SW)
32	32	10	11	7	25,5	21	18	31	38	50	1,6	10	6,6	0,05	M/P19493
40	36	12	11	9	27,5	24	22	35	41	54	1,6	11	6,6	0,07	M/P19494
50	45	12	15	11	31,5	33	30	45	50	65	1,6	13	9	0,14	M/P19495
63	50	16	15	12	39,5	37	35	50	52	67	1,6	15	9	0,18	M/P19496
80	63	16	18	14	49,5	47	40	60	66	84	2,5	15	11	0,28	M/P19497
100	71	20	18	15	59,5	55	50	70	76	94	2,5	19	11	0,42	M/P19498
125	90	25	20	20	70,5	70	60	90	94	124	3,2	22	14	2,70	M/P19499

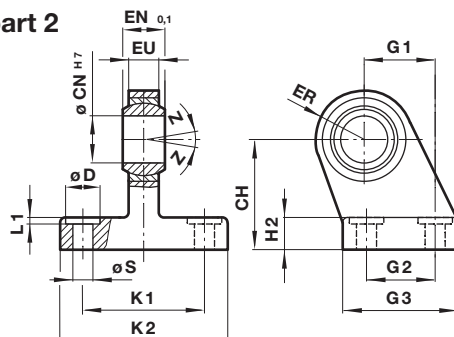
Narrow hinge SS



Ø	CA	Ø CN G7	Ø D	H2	EM	G1	G2	G3	K1	K2	L1	R	Ø S	kg	Model (SS)
32	32	10	11	8	10	21	18	31	38	51	1,6	10	6,6	0,15	M/P19931
40	36	12	11	10	12	24	22	35	41	54	1,6	11	6,6	0,20	M/P19932
50	45	16	15	12	16	33	30	45	50	65	1,6	13	9	0,48	M/P19933
63	50	16	15	12	16	37	35	50	52	67	1,6	15	9	0,50	M/P19934
80	63	20	18	14	20	47	40	60	66	86	2,5	15	11	0,75	M/P19935
100	71	20	18	15	20	55	50	70	76	96	2,5	19	11	1,20	M/P19936
125	90	25	20	20	30	70	60	90	94	124	3,2	22	14	2,50	M/P19937

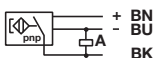
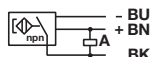
Swivel hinge US

Conforms to VDMA 24562 part 2



Ø	CH	Ø CN H7	Ø D	EN -0,1	ER	EU	G1	G2	G3	H2	K1	K2	L1	Ø S	Z	kg	Model (US)
32	32	10	11	14	16	10,5	21	18	31	10	38	51	1,6	6,6	13°	0,19	M/P40310
40	36	12	11	16	18	12	24	22	35	10	41	54	1,6	6,6	13°	0,24	M/P40311
50	45	16	15	21	21	15	33	30	45	12	50	65	1,6	9	13°	0,46	M/P40312
63	50	16	15	21	23	15	37	35	50	12	52	67	1,6	9	15°	0,59	M/P40313
80	63	20	18	25	28	18	47	40	60	14	66	86	2,5	11	15°	1,03	M/P40314
100	71	20	18	25	30	18	55	50	70	15	76	96	2,5	11	15°	1,40	M/P40315
125	90	30	20	37	40	25	70	60	90	20	94	124	3,2	14	15°	3,10	M/P71355

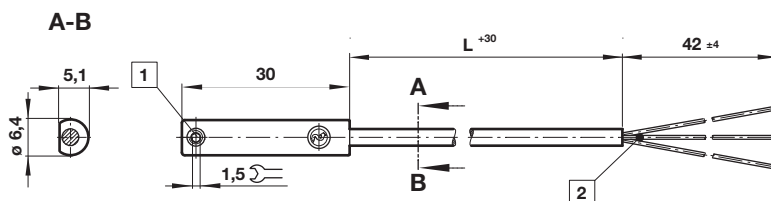
Technical data - Solid state - additional informations see data sheet N/en 4.3.007

Symbol	Voltage (V d.c.)	Current maximum (mA)	Function	Operating temperature (°C)	LED	Protection class	Plug	Cable length (m)	Cable type	Weight (g)	Model
 + BN - BU BK	10 ... 30	150	PNP	-40 ... +80	•	IP67	—	2, 5 or 10	PVC 3 x 0,12	37	M/50/EAP/*V
 - BU + BN BK	10 ... 30	150	NPN	-40 ... +80	•	IP67	—	2, 5 or 10	PVC 3 x 0,12	37	M/50/EAN/*V

* Insert cable length; *1) Plug-in connector below; Color code: BK = black, BN = brown, BU = blue

Drawings

M/50/EAP/*V,
M/50/EAN/*V
Cable length L = 2, 5 or 10 m



Dimensions in mm
Projection/First angle



- 1 Fixing screw
- 2 Color code: BK = black; BN = brown; BU = blue

Warning

These products are intended for use in industrial compressed air and rail transport systems only. Do not use these products where pressures and temperatures can exceed those listed under

»Technical features/data«.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult IMI NORGREN.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.