

## Series 102



**AVENTICS™**

**AVENTICS Series 102  
Diaphragm type cylinder**

  
**EMERSON™**

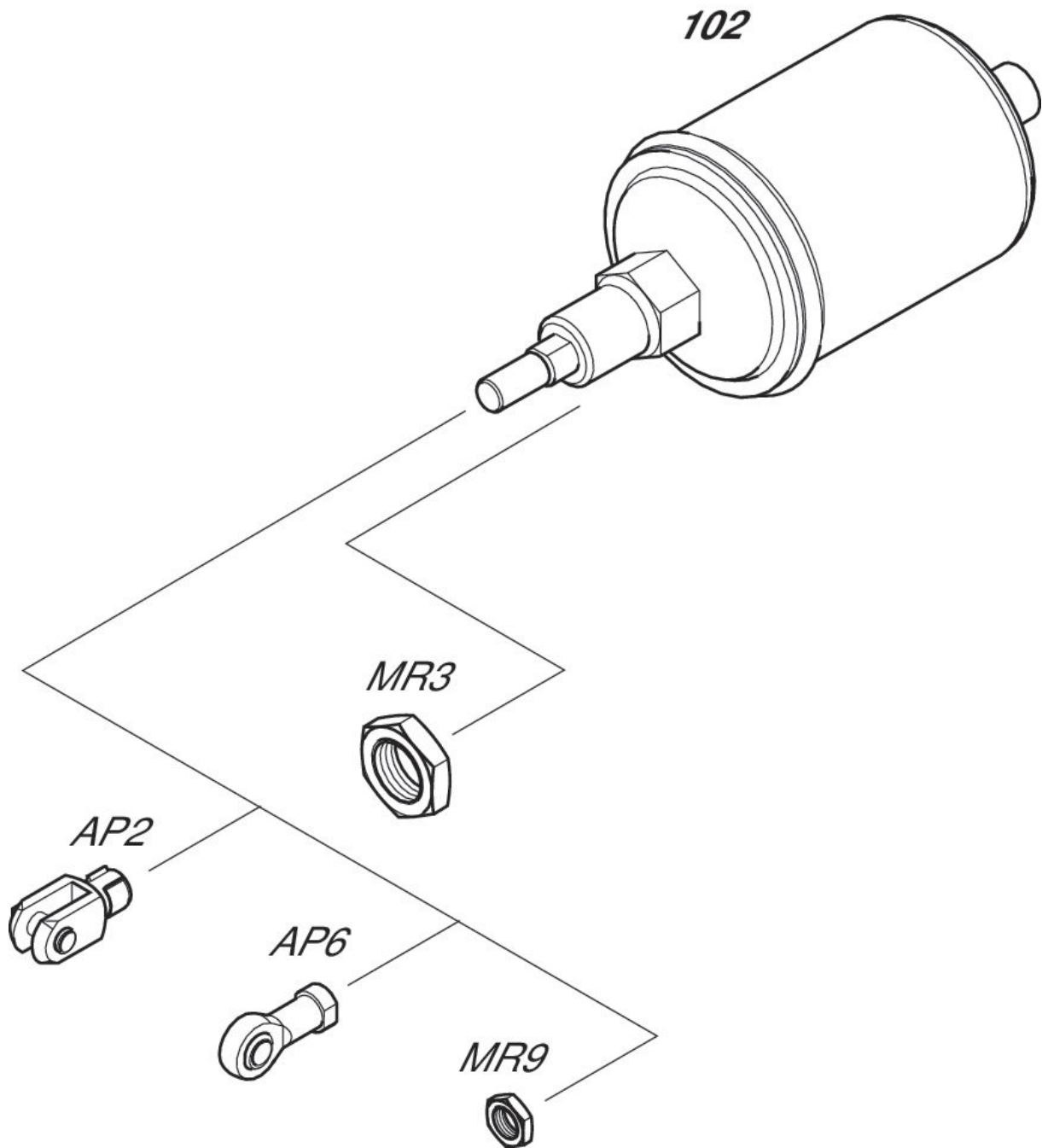
## Series 102

The AVENTICS Series 102 is cost-efficient solution to generate high forces for press application for example.

- Ø 60 ... 250 mm
- Double-acting and single-acting, retracted without pressure

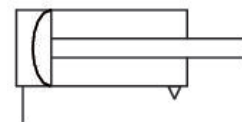


Overview drawing



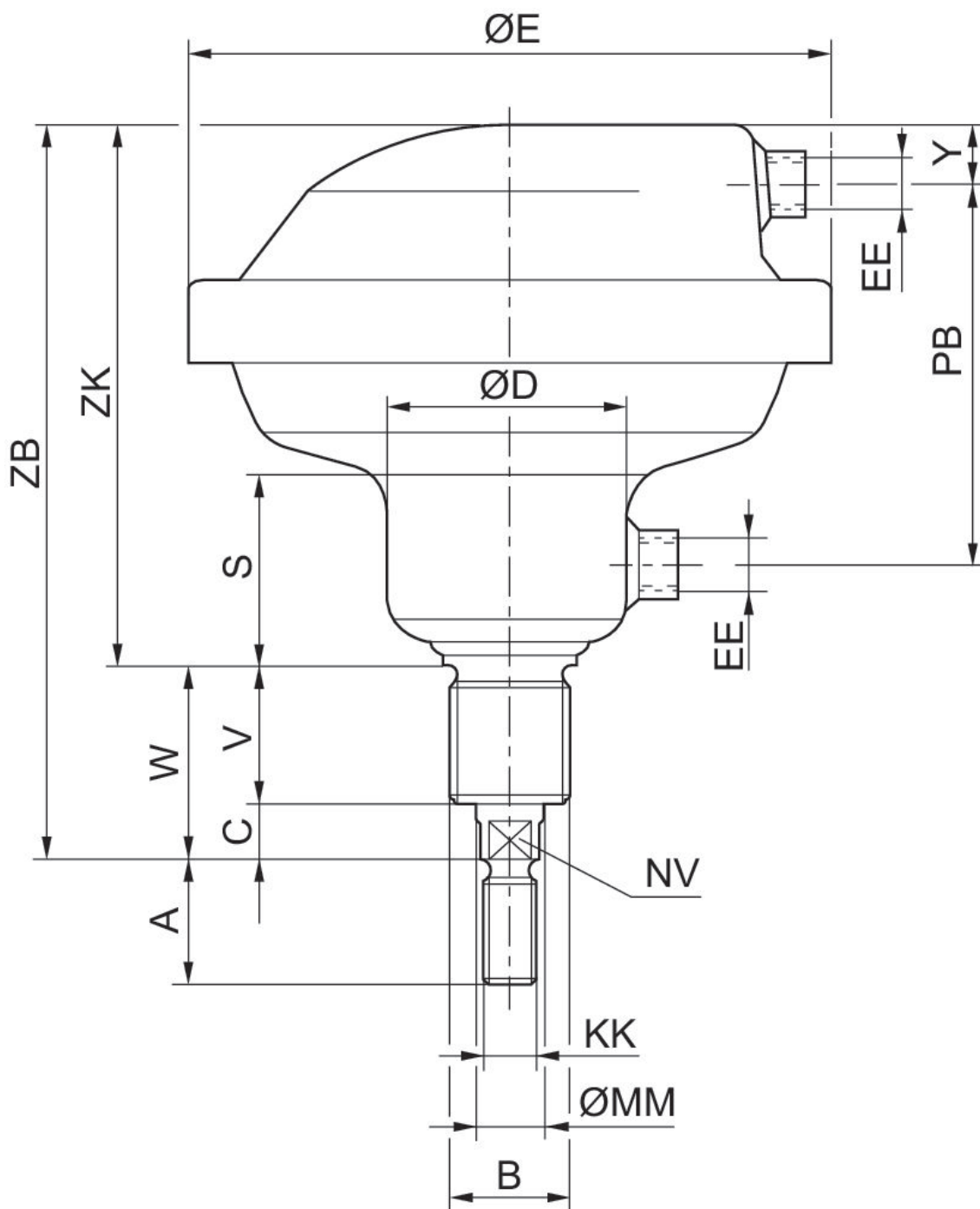
**Diaphragm-type cylinder, Series 102**

Diaphragm-type cylinder  
 External thread  
 Coarse-pitch threads  
 Internal thread  
 Single-acting, retracted without pressure



Piston Ø [mm]	Stroke [mm]	Functional principle	Min. spring force [N]	Max. spring force [N]	Extracting piston force [N]	Piston rod thread	Thread connection	Weight [kg]	Part No.
80	40	Single-acting, retracted without pressure	100	300	3000	M12	G 1/4	2.8	1025100000
113	50	Single-acting, retracted without pressure	100	650	6000	M16	G 1/4	5.6	1025200000
160	50	Single-acting, retracted without pressure	240	1000	12000	M20	G 1/2	12.2	1025300000

Dimensions

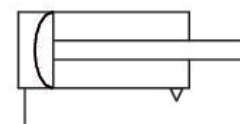


Piston Ø	Part No.	A	B	C	D	E	S	V	W	Y
80	1025100000	24	M24x2	14	55	150	48	38	52	15
113	1025200000	32	M36x3	20	71	195	55	38	58	15
160	1025300000	40	M36x3	20	88	261	58	45	65	26

Piston Ø	EE	KK	MM	NV	PB	ZB	ZK
80	G 1/4	M12	16	13	90	183	131
113	G 1/4	M16	20	17	107	212	154
160	G 1/2	M20	25	22	117	243	178

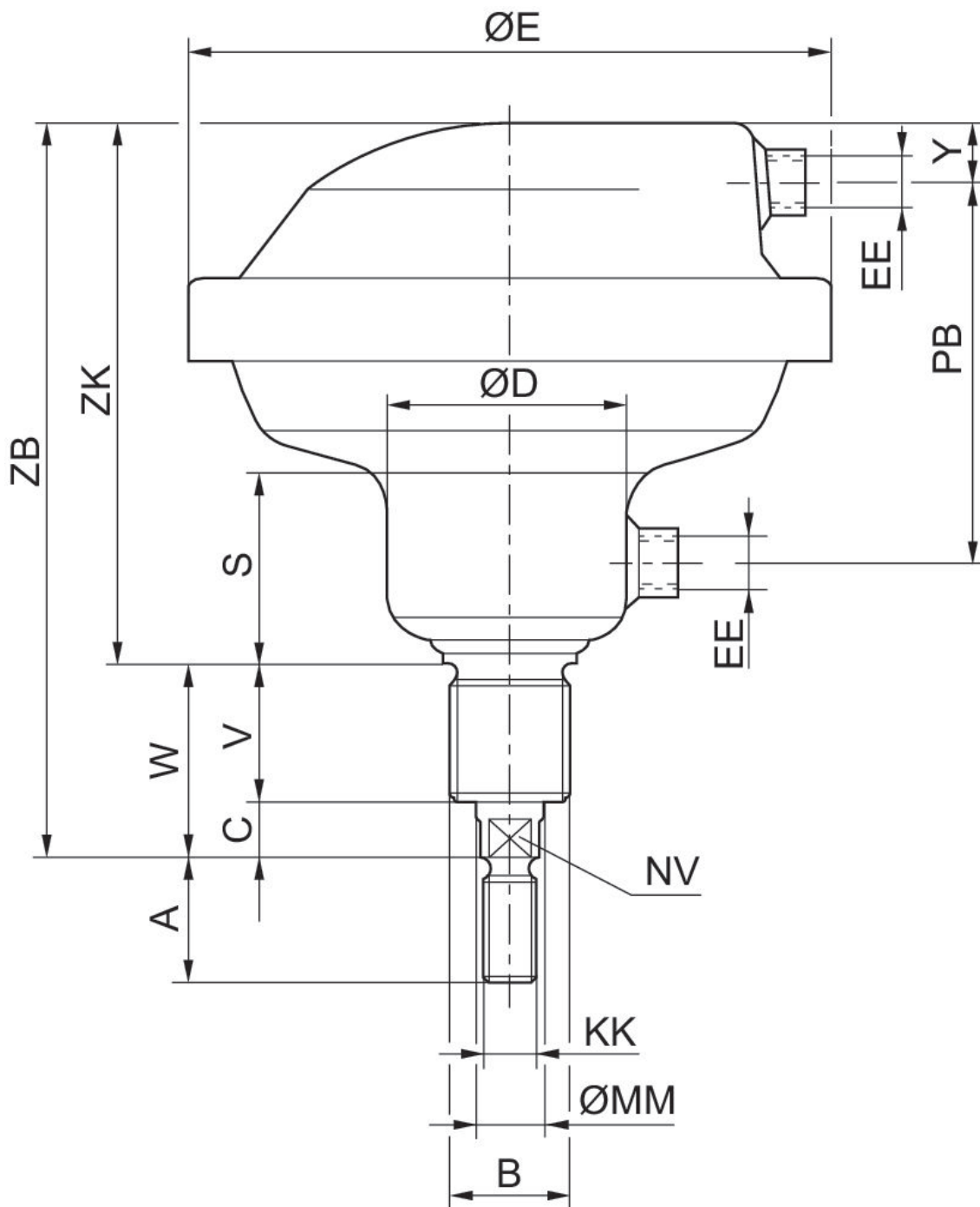
### Diaphragm-type cylinder, Series 102

Diaphragm-type cylinder  
External thread  
fine thread  
Internal thread  
Single-acting, retracted without pressure



Piston Ø [mm]	Stroke [mm]	Functional principle	Min. spring force [N]	Max. spring force [N]	Extracting piston force [N]	Piston rod thread	Thread connection	Weight [kg]	Part No.
80	40	Single-acting, retracted without pressure	100	300	3000	M12x1,25	G 1/4	2.8	1020100000
113	50	Single-acting, retracted without pressure	100	650	6000	M16x1,5	G 1/4	5.6	1020200000
160	50	Single-acting, retracted without pressure	240	1000	12000	M20x1,5	G 1/2	12.2	1020300000

Dimensions



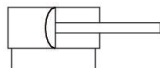
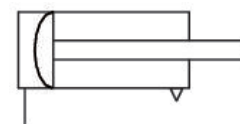
Part No.	Piston Ø	A	B	C	D	E	S	V	W	Y
1020100000	80	24	M24x2	14	55	150	48	38	52	15
1020200000	113	32	M36x3	20	71	195	55	38	58	15
1020300000	160	40	M36x3	20	88	261	58	45	65	26



Part No.	Piston Ø	EE	KK	MM	NV	PB	ZB	ZK
1020100000	80	G 1/4	M12x1.25	16	13	90	183	131
1020200000	113	G 1/4	M16x1.5	20	17	107	212	154
1020300000	160	G1/2	M20x1.5	25	22	117	243	178

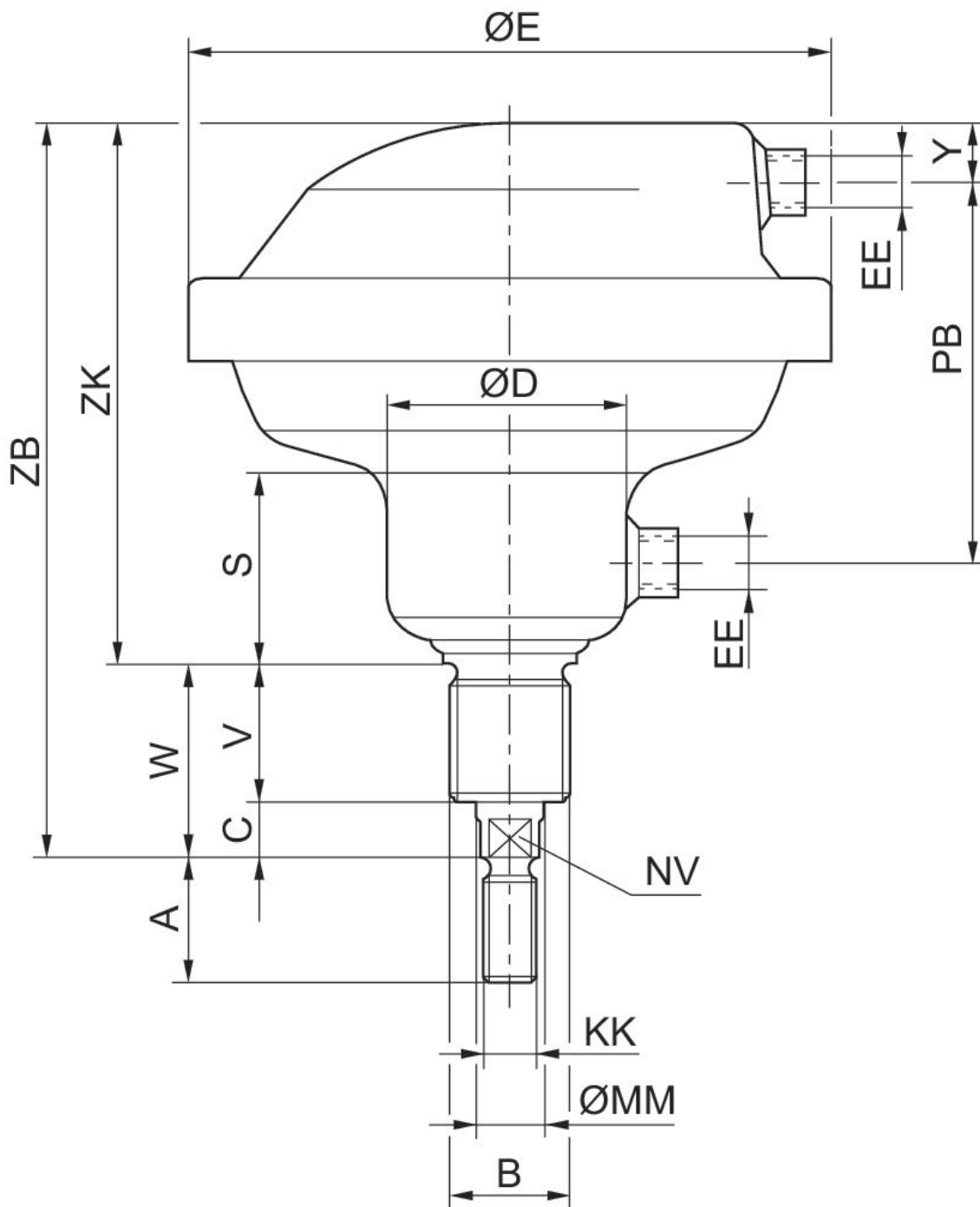
**Diaphragm-type cylinder, Series 102**

Diaphragm-type cylinder  
External thread  
Coarse-pitch threads  
Internal thread  
Double-acting



Piston Ø [mm]	Stroke [mm]	Functional principle	Min. spring force [N]	Retracting piston force [N]	Extracting piston force [N]	Piston rod thread	Thread connection	Weight [kg]	Part No.
80	40	Double-acting		2880	3000	M12	G 1/4	2.6	1026100000
113	50	Double-acting	100	5800	6000	M16	G 1/4	5.4	1026200000
160	50	Double-acting		11600	12000	M20	G 1/2	11.4	1026300000

Dimensions

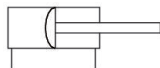
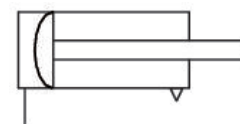


Part No.	Piston Ø	A	B	C	D	E	S	V	W	Y
1026100000	80	24	M24x2	14	55	150	48	38	52	15
1026200000	113	32	M36x3	20	71	195	55	38	58	15
1026300000	160	40	M36x3	20	88	261	58	45	65	26

Part No.	Piston Ø	EE	KK	MM	NV	PB	ZB	ZK
1026100000	80	G 1/4	M12	16	13	90	183	131
1026200000	113	G 1/4	M16	20	17	107	212	154
1026300000	160	G 1/2	M20	25	22	117	243	178

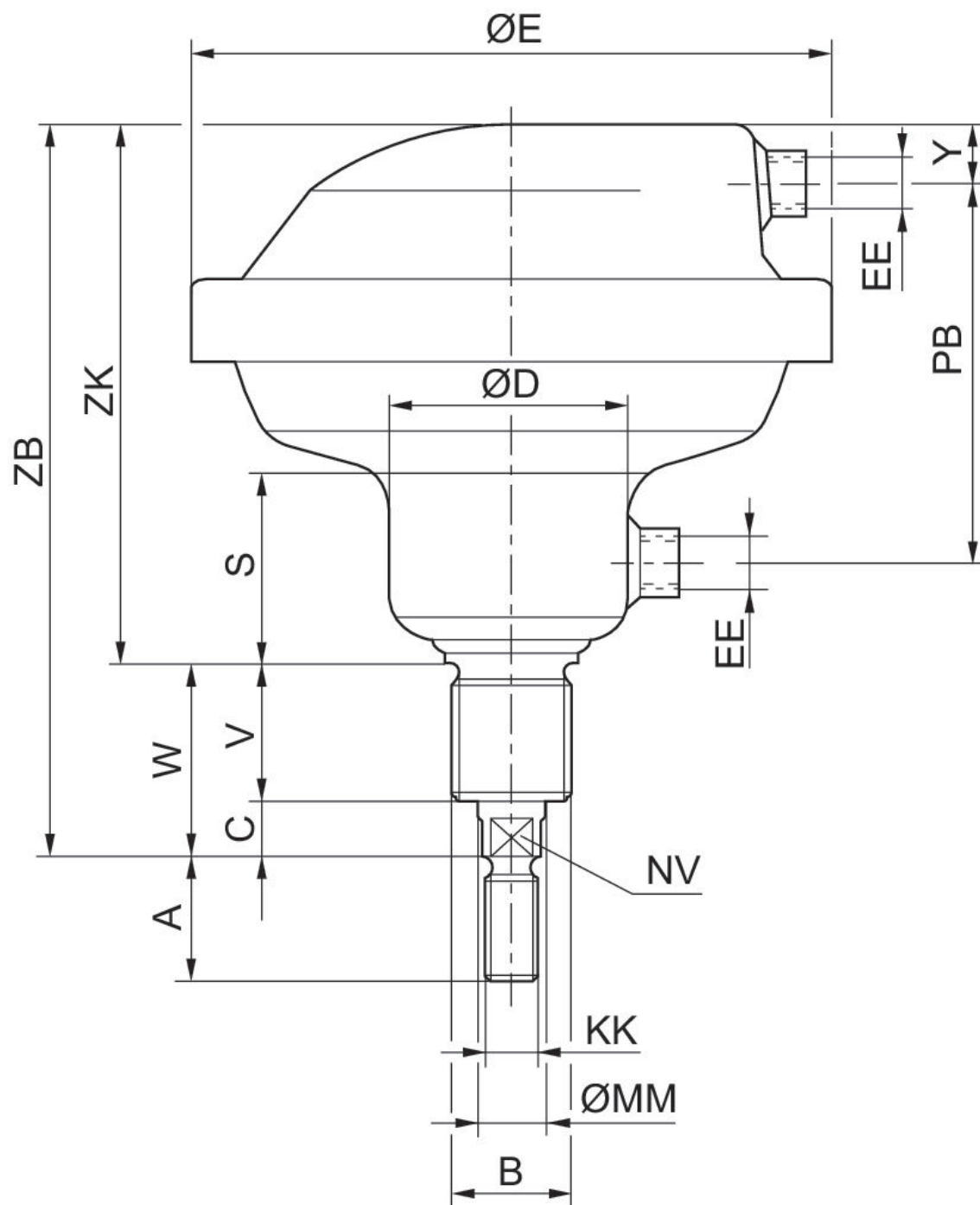
### Diaphragm-type cylinder, Series 102

Diaphragm-type cylinder  
External thread  
fine thread  
Internal thread  
Double-acting



Piston Ø [mm]	Stroke [mm]	Functional principle	Min. spring force [N]	Retracting piston force [N]	Extracting piston force [N]	Piston rod thread	Thread connection	Weight [kg]	Part No.
80	40	Double-acting		2880	3000	M12x1,25	G 1/4	2.6	1021100000
113	50	Double-acting	100	5800	6000	M16x1,5	G 1/4	5.4	1021200000
160	50	Double-acting		11600	12000	M20x1,5	G 1/2	11.4	1021300000

Dimensions



Part No.	Piston Ø	A	B	C	D	E	S	V	W	Y
1021100000	80	24	M24x2	14	55	150	48	38	52	15
1021200000	113	32	M36x3	20	71	195	55	38	58	15
1021300000	160	40	M36x3	20	88	261	58	45	65	26

Part No.	Piston Ø	EE	KK	MM	NV	PB	ZB	ZK
1021100000	80	G 1/4	M12x1.25	16	13	90	183	131
1021200000	113	G 1/4	M16x1.5	20	17	107	212	154
1021300000	160	G 1/2	M20x1.5	25	22	117	243	178

**Piston rod cylinders, Series 102**

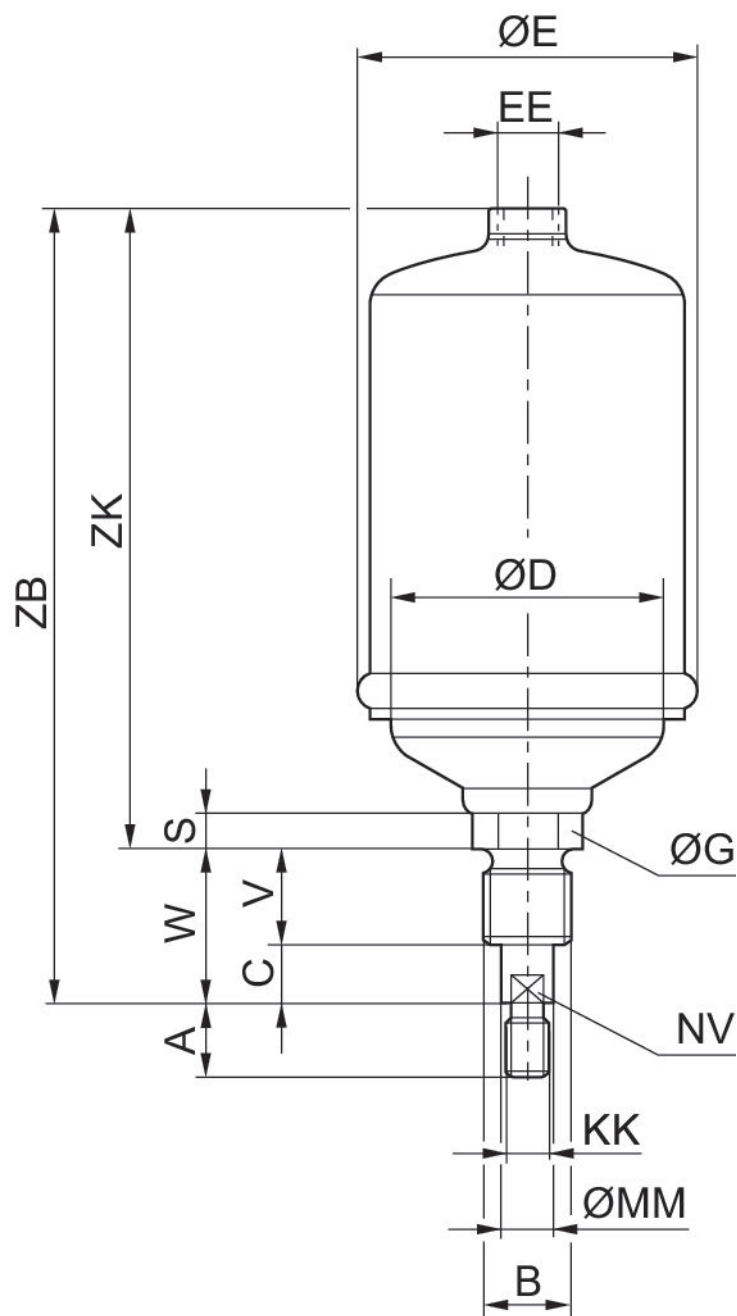
Diaphragm-type cylinder  
External thread  
Coarse-pitch threads  
Internal thread  
Single-acting, retracted without pressure



Piston Ø [mm]	Stroke [mm]	Functional principle	Min. spring force [N]	Max. spring force [N]	Extracting piston force [N]	Piston rod thread	Thread connection	Weight [kg]	Part No.
60	80	Single-acting, retracted without pressure	130	320	1600	M12	G 1/4	1	1027100000
85	80	Single-acting, retracted without pressure	130	320	3000	M12	G 1/4	1.5	1027200000
250	100	Single-acting, retracted without pressure	900	2750	25000	M24	G 1/2	22.2	1027300000



Dimensions



Part No.	Piston Ø	A	B	C	D	E	G	S	V	W
1027100000	60	24	M 24	11	54	66	30	18	30	41
1027200000	85	24	M24	11	77	93	30	18	30	41
1027300000	250	48	M48x3	20	56	268	50	33	40	60

Part No.	Piston Ø	EE	KK	MM	NV	ZB	ZK
1027100000	60	G 1/4	M12	14	12	222	181
1027200000	85	G 1/4	M12	14	12	222	181

Part No.	Piston Ø	EE	KK	MM	NV	ZB	ZK
1027300000	250	G 1/2	M24	28	25	385	325

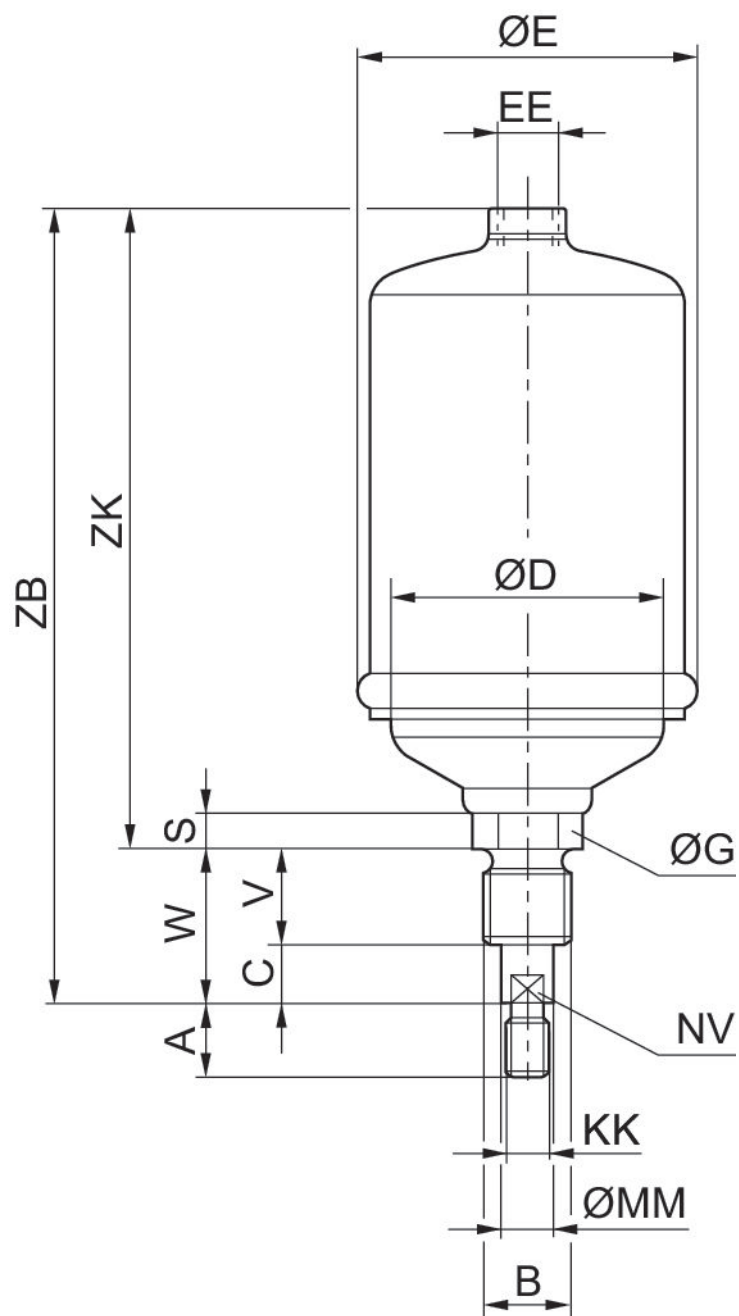
**Piston rod cylinders, Series 102**

Diaphragm-type cylinder  
External thread  
fine thread  
Internal thread  
Single-acting, retracted without pressure



Piston Ø [mm]	Stroke [mm]	Functional principle	Min. spring force [N]	Max. spring force [N]	Extracting piston force [N]	Piston rod thread	Thread connection	Weight [kg]	Part No.
60	80	Single-acting, retracted without pressure	130	320	1600	M12x1,25	G 1/4	1	1022100000
85	80	Single-acting, retracted without pressure	130	320	3000	M12x1,25	G 1/4	1.5	1022200000
250	100	Single-acting, retracted without pressure	900	2750	25000	M24x2	G 1/2	22.2	1022300000

Dimensions



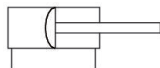
Part No.	Piston Ø	A	B	C	D	E	G	S	V	W
1022100000	60	24	M 24	11	54	66	30	18	30	41
1022200000	85	24	M24	11	77	93	30	18	30	41
1022300000	250	48	M48x3	20	56	268	50	33	40	60

Part No.	Piston Ø	EE	KK	MM	NV	ZB	ZK
1022100000	60	G 1/4	M12x1.25	14	12	222	181
1022200000	85	G 1/4	M12x1.25	14	12	222	181

Part No.	Piston Ø	EE	KK	MM	NV	ZB	ZK
1022300000	250	G 1/2	M24x2	28	25	385	325

**Piston rod cylinders, Series 102**

Diaphragm-type cylinder  
External thread  
Coarse-pitch threads  
Internal thread  
Double-acting



Piston Ø [mm]	Stroke [mm]	Functional principle	Retracting piston force [N]	Extracting piston force [N]	Piston rod thread	Thread connection	Weight [kg]	Part No.
250	80	Double-acting	24300	25000	M24	G 1/2	21.6	1028300000

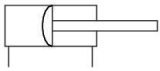


Part No.	Piston Ø	EE	KK	MM	NV	ZB	ZK
1028300000	250	G 1/2	M24	28	25	385	325



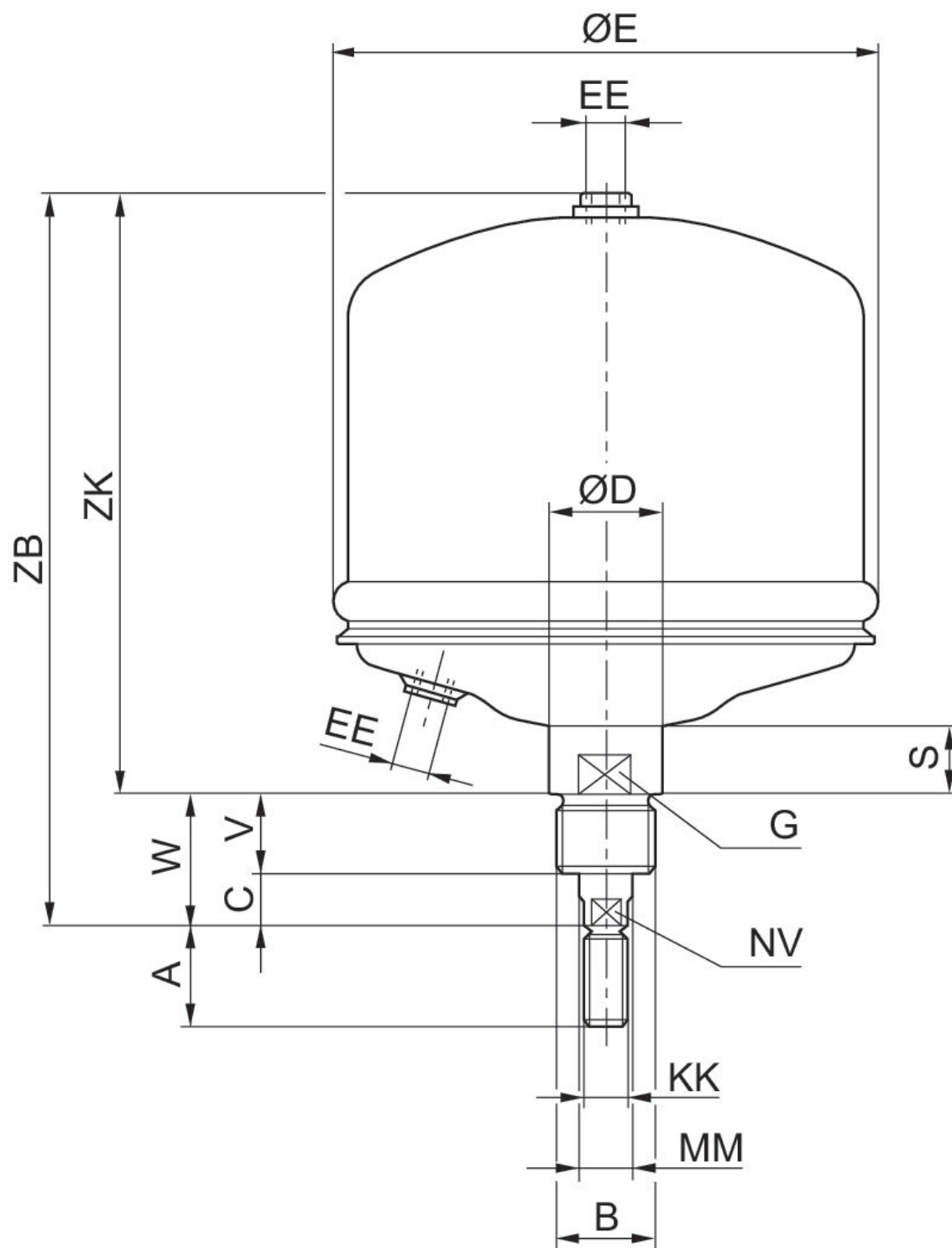
**Piston rod cylinders, Series 102**

Diaphragm-type cylinder  
External thread  
fine thread  
Internal thread  
Double-acting



Piston Ø [mm]	Stroke [mm]	Functional principle	Retracting piston force [N]	Extracting piston force [N]	Piston rod thread	Thread connection	Weight [kg]	Part No.
250	80	Double-acting	24300	25000	M24x2	G 1/2	21.6	1023300000

Dimensions



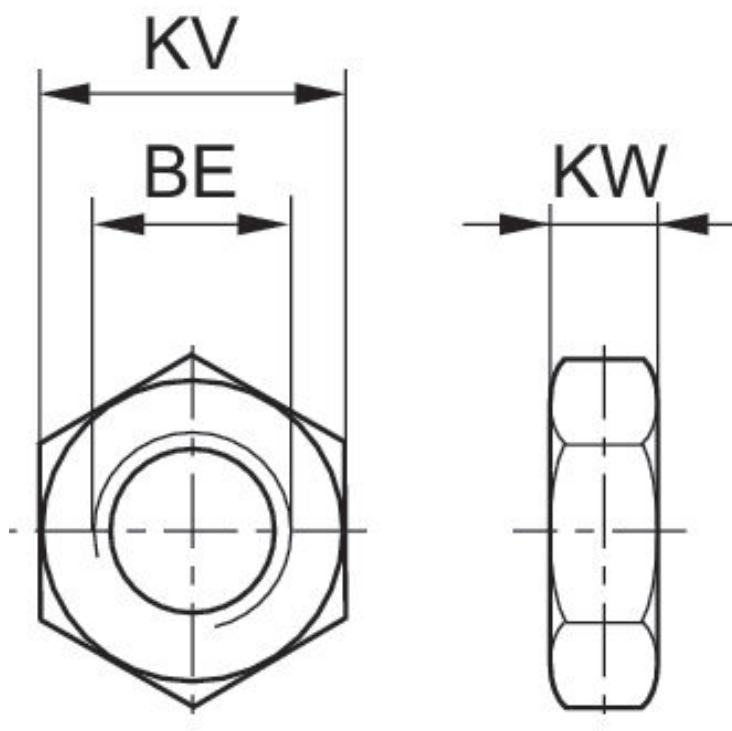
Part No.	Piston Ø	A	B	C	D	E	G	S	V	W
1023300000	250	48	M48x3	20	56	268	50	33	40	60

Part No.	Piston Ø	EE	KK	MM	NV	ZB	ZK
1023300000	250	G 1/2	M24x2	28	25	385	325

Nut MR3, series CM1



Suitable piston Ø [mm]	Thread size	Material	Part No.
80	M24x2	Steel, chrome-plated	3008010180
60, 85	M24	Steel, chrome-plated	3056010180
113, 160	M36x3	Steel, chrome-plated	3012010180
250	M48x3	Steel, chrome-plated	3075010180



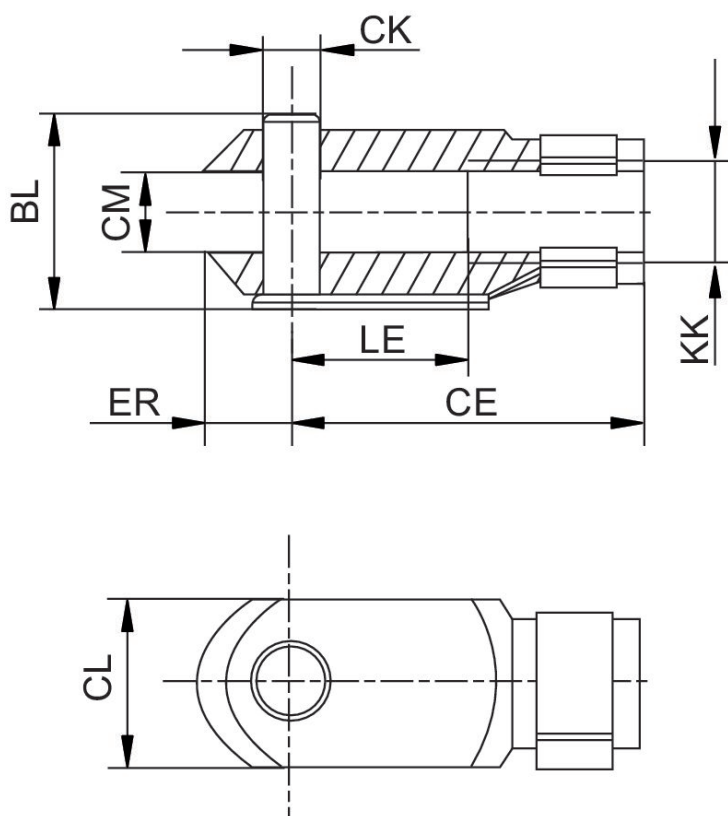
Piston Ø	Part No.	For series	BE	KV	KW
8, 10	1823300024	MNI	M12x1,25	17	5.5
12, 16	2915A51204	MNI	M16x1,5	22	6
20, 25	2915051207	CSL-RD, MNI	M22x1,5	30	7
8, 10	0413215803	ICM	M12x1,25	17	6.75
16	0413214505	ICM	M16x1,5	24	7

Piston Ø	Part No.	For series	BE	KV	KW
16	2918540030	CSL-RD	M16 x1,5	27	8
20, 25	0413214602	ICM	M22 x1,5	30	8
20, 25	R913030290	CSL-RD	M22 x1,5	32	11
32	0413214718	ICM	M30x1,5	41	11
80	3008010180	102	M24x2	36	8
60, 85	3056010180	102	M24	36	8
32	R412027809	102	M30x1,5	36	10
40	R412027810	RPC	M36x1,5	46	10
113, 160	3012010180	102	M36x3	52	10
40	R412027811	RPC	M38x1,5	46	10
50, 63	R412027812	RPC	M45x1,5	60	12
250	3075010180	102	M48x3	65	12

Rod clevis AP2, Series CM2



Suitable piston rod thread	for series	Material	Part No.
M12	RPC, 102	Steel, chrome-plated	8958000132
M12x1,25	PRA, TRB, CCI, KPZ, 167, CVI, RPC, 102	Steel, chrome-plated	1822122025
M16x1,5	PRA, TRB, CCI, KPZ, 167, CVI, RPC, RDC, 102	Steel, chrome-plated	1822122005
M20x1,5	PRA, TRB, KPZ, 167, CVI, 102	Steel, chrome-plated	1822122004



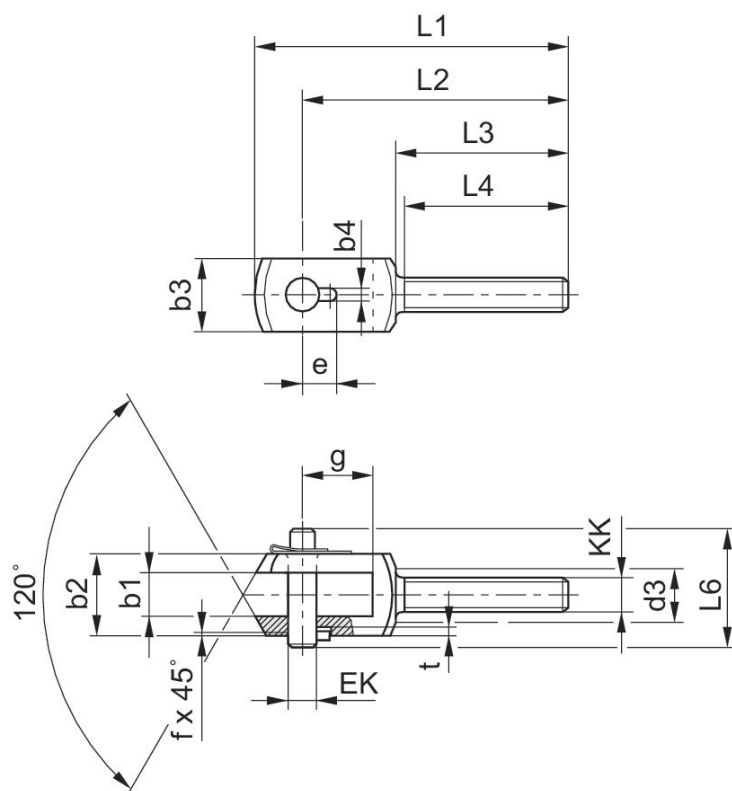
KK	Part No.	BL	CE	ØCK e11	CL	CM	ØD1	ER	LE
M4	1822122028	11	16	4	8	4	8	5	8
M6	1822122009	16	24	6	12	6	10	7	12

KK	Part No.	BL	CE	ØCK e11	CL	CM	ØD1	ER	LE
M8	1822122010	21,5	32	8	16	8	14	10	16
M10x1,25	1822122024	26	40	10	20	10	18	12	20
M12x1,25	1822122025	31	48	12	24	12	20	14	24
M16x1,5	1822122005	39	64	16	32	16	26	19	32
M20x1,5	1822122004	50	80	20	40	20	34	20	40
M10	8958000122	26	40	10	20	10	18	12	20
M12	8958000132	31	48	12	24	12	20	14	24
M48x2	8958019332	122	192	50	96	50	82	73	96
M5	1822122008	13.5	20	5	10	5	9	6	10

Rod clevis PM6, Series CM2



for series	Swivel bearing Ø [mm]	Material	Part No.
AP6	16	Steel, chrome-plated	1822122033
AP6	25	Steel, chrome-plated	1822122035



KK	Part No.	b1 B12	b2 d12	b3	b4 +0,2	d3	e +0,3	EK	f	g
14	1822122032	14	28	20	3.3	17	11.5	10	0.7	20
16	1822122033	16	30	25	4.3	19	12	12	1	26
21	1822122034	21	40	35	4.3	24	14	16	1	31
25	1822122035	25	50	40	4.3	30	16	20	1	43
30	1822122036	37	67	60	6.3	38	24	30	1.5	54

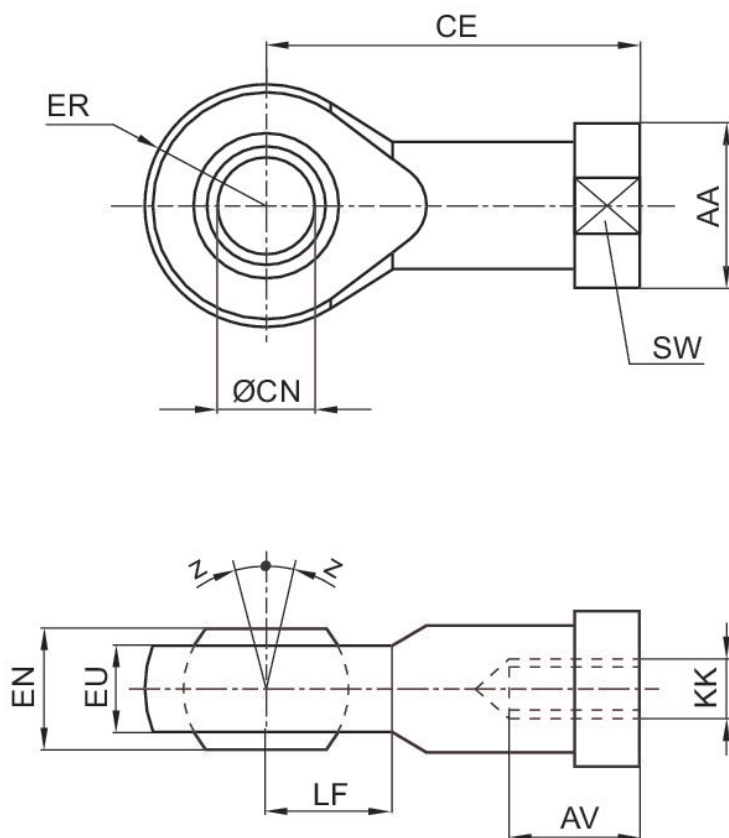


KK	L1	L2	L3	L4 +1	L6	t +0,2
14	90	78	53	50	35	3
16	108	92	58	55	39	3
21	129	108	65	62	50	3
25	156	131	73	69	60	3
30	200	168	98	92	77	5

Ball eye rod end AP6, series CM2



Suitable piston rod thread	for series	Swivel bearing Ø [mm]	Material	Part No.
M12x1,25	PRA, TRB, CCI, SSI, RPC, KPZ, 167, CVI, 102	12	Steel, chrome-plated	1822124004
M16x1,5	PRA, TRB, CCI, SSI, RPC, KPZ, 167, CVI, RDC, 102	16	Steel, chrome-plated	1822124005
M20x1,5	PRA, TRB, KPZ, 167, CVI, 102	20	Steel, chrome-plated	1822124006
M24x2		25	Steel, chrome-plated	8958208002



KK	Part No.	AA	AV min.	CE	Ø CN H7	EN -0,1	ER	EU max.	LF	SW
M4	1822124000	12	8	27	5	8	9	7.5	9	9
M6	1822124001	13	9	30	6	9	10	7.5	10	11
M8	1822124002	16	12	36	8	12	12	9.5	12	14
M10	8958206402	19	20	43	10	14	14	10.5	13	17
M12	8958208852	22	22	50	12	16	16	12	16	19
M10x1,25	1822124003	19	15	43	10	14	14	11.5	14	17
M12x1,25	1822124004	22	18	50	12	16	16	12.5	16	19
M16x1,5	1822124005	27	24	64	16	21	21	15.5	21	22
M20x1,5	1822124006	34	30	77	20	25	25	18.5	25	30
M24x2	8958208002	42	36	94	25	31	30	23	30	36
M27x2	1822124013	50	45	110	30	37	35	27	35	41
M36x2	1822124008	60	56	125	35	43	40	32	40	50
M42x2	1822124009	69	60	142	40	49	45.5	37	45	55
M48x2	8958208842	75	65	160	50	60	58	45	60	65

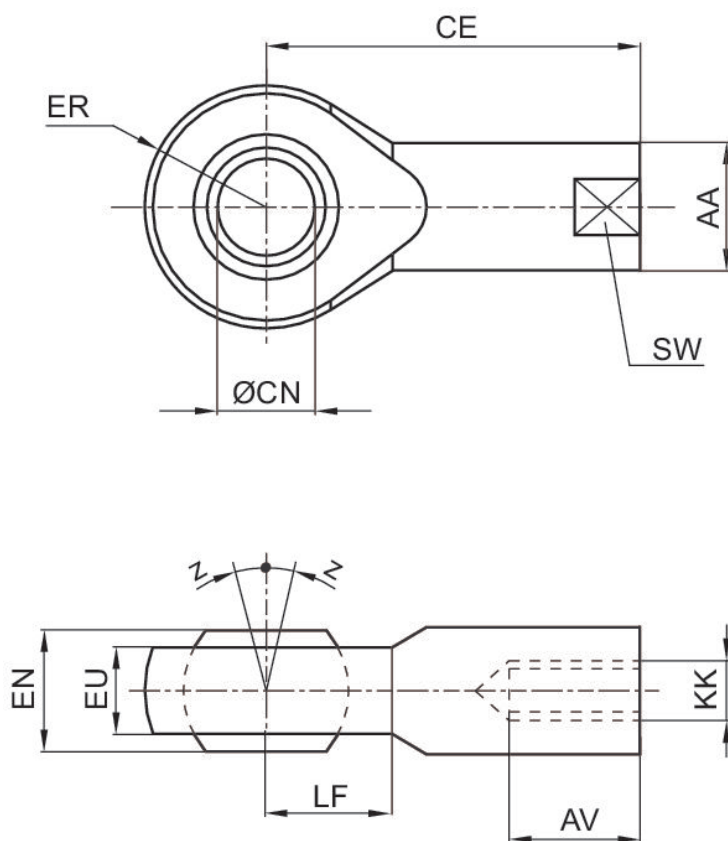
KK	Z [°] max.
M4	4
M6	4
M8	4
M10	6
M12	13
M10x1,25	4
M12x1,25	4
M16x1,5	4
M20x1,5	4
M24x2	15
M27x2	4
M36x2	4
M42x2	4
M48x2	6

Ball eye rod end AP6, series CM2



Suitable piston rod thread	for series	Swivel bearing Ø [mm]	Material	Part No.
M12x1,25	PRA, TRB, CVI, 167, CCI, KPZ, SSI, RPC, 102	12	Steel, chrome-plated	3660904000
M16x1,5	PRA, TRB, CVI, 167, CCI, KPZ, SSI, RPC, RDC, 102	16	Steel, chrome-plated	3660905000
M20x1,5	PRA, TRB, CVI, 167, CCI, KPZ, SSI, 102	20	Steel, chrome-plated	3660908000

Dimensions



Part No.	KK	AA	AV min.	CE	Ø CN H7	EN -0,1	ER	EU max.	LF	SW
3660902000	M10x1.25	19	15	43	10	12	15	9	14	17

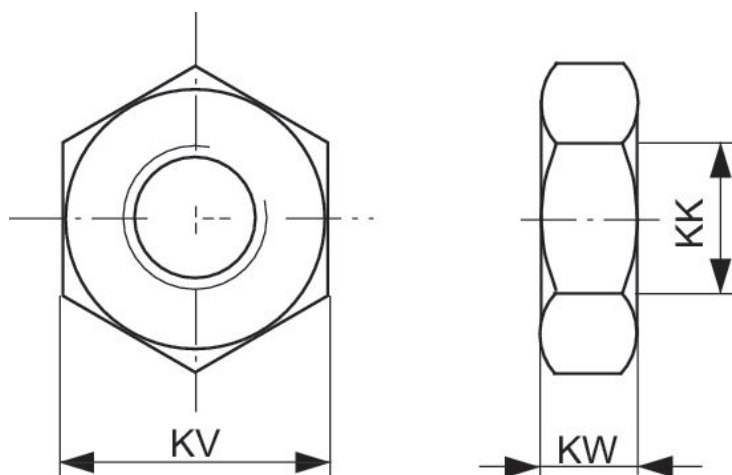
Part No.	KK	AA	AV min.	CE	Ø CN H7	EN -0,1	ER	EU max.	LF	SW
3660904000	M12x1.25	22	16	50	12	12	17	8	16	19

Part No.	Z [°] max.
3660902000	8
3660904000	8

Piston rod nut MR9



Thread size	Material	Part No.
M16x1,5	Steel, chrome-plated	1823300030
M20x1,5	Steel, chrome-plated	1823300031
M24x2	Steel, chrome-plated	8103190394
M12x1,25	Stainless Steel	3590304000
M16x1,5	Stainless Steel	3590305000
M20x1,5	Stainless Steel	3590308000



KK	Part No.	KV	KW
M4	1823300033	10	3.2
M6	1823300034	13	4
M8	1823A00021	19	6
M10	8103190344	19	6
M10x1,25	1823300030	24	8
M20x1,5	1823300031	30	10
M27x2	1823A00029	41	13.5
M36x2	8103190414	50	16
M42x2	8103190424	60	21
M6	8103190644	10	3.2

KK	Part No.	KV	KW
M8	8103190164	13	4
M10x1,25	8103190464	17	5
M4	3330310000	7	2.2
M12x1,25	3590304000	19	6
M16x1,5	3590305000	24	8
M20x1,5	3590308000	30	10
M20x1,5	8103040344	30	10
M24x2	8103190394	36	12
M48x2	8103190434	65	25
M10x1,25	2990600303	17	5
M12x1,25	2990600304	19	6
M16x1,5	2990600305	24	8
M20x1,5	2990600308	30	10
M27x2	2990600312	41	13.5
M36x2	2990600316	50	16
M42x2	2990600325	60	21

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