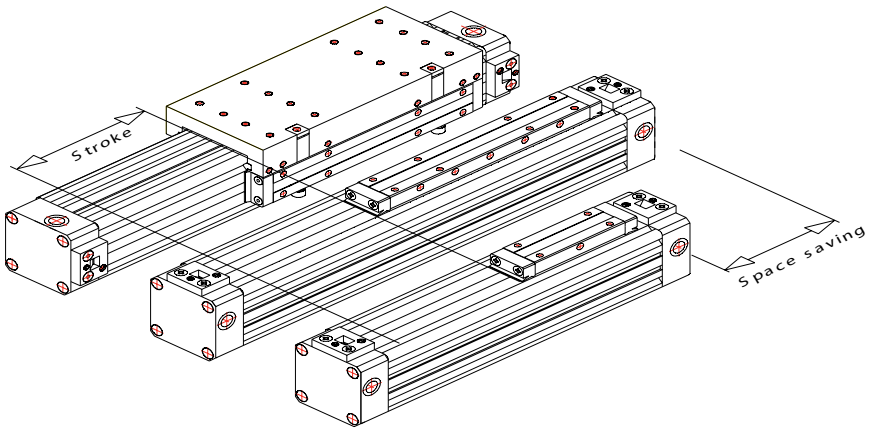
STANDARD ZS/ZK

Technical Information

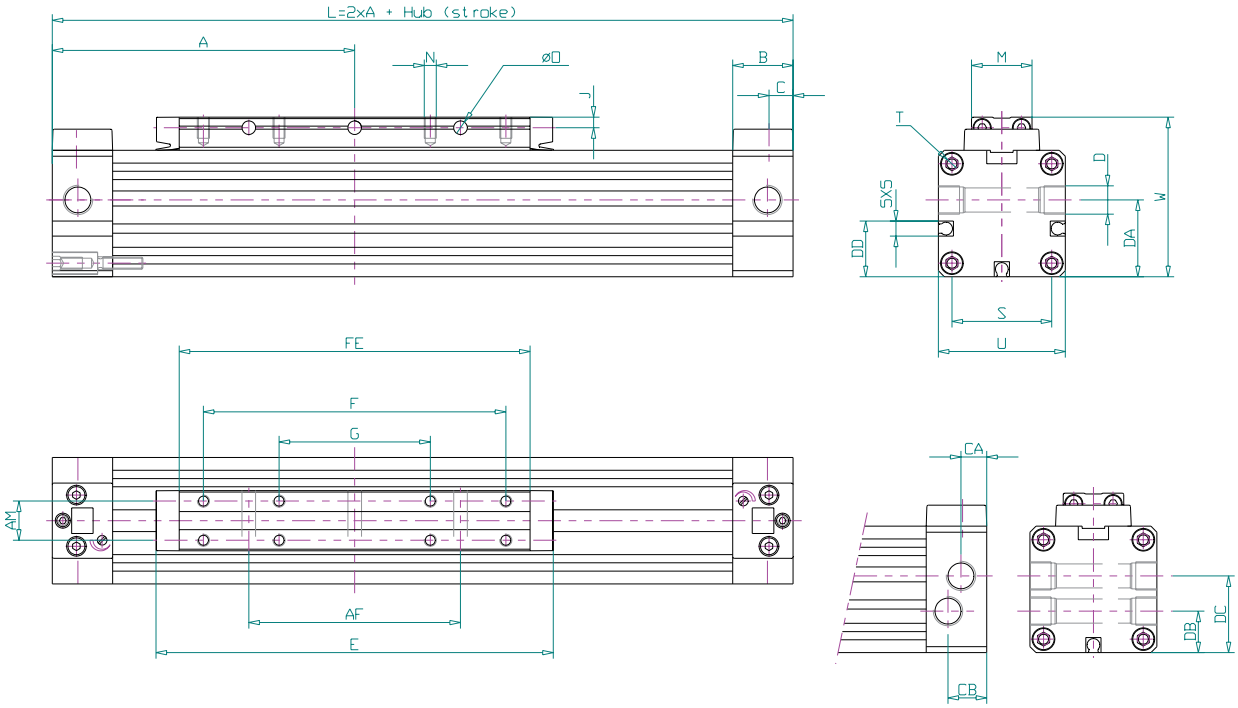
- ZS and ZK are the base for all other cylinder and the most required.
- Also called rodless pneumatic cylinder with internal guiding
- Different guiding systems can be mounted additionally
- Adjustable cushioning
- Magnetic piston
- C and dove tail nut in aluminum profile to mount sensors

Additional benefits of ZK Short Cylinder

- Basic length (0-stroke) up to 42% shorter
- Space-saving also in comparison to short – stroke standard cylinders with piston rod
- Shorter total fitting length
- Cost efficient compact construction



ZS Standard Cylinder

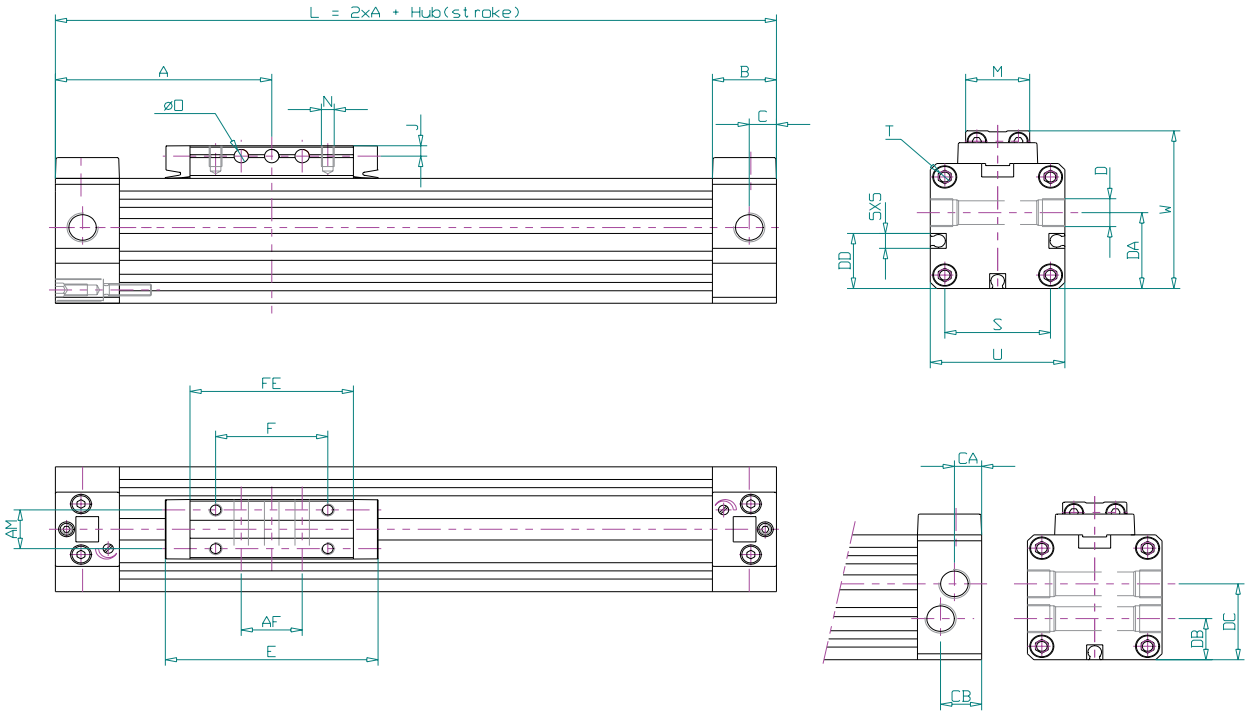


	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
A	80	100	120	150	180	215
AF	50	70	100	140	180	230
AM	10	13	16	22	29	40
B	16.5	20	20	23	23	29
C	6.5	8.5	8.5	13	13	13
CA	---	7	7	11	12	12,5
CB	---	13	13	14.5	14	15,5
D	M7x1 / 6	G1/8 x 8	G1/8 x 8	G1/4 x 12	G1/4 x 12	G3/8 x 12
DA	15.5	25.5	32	37.5	47.5	59.5
DB	---	14	16	18.5	22,5	24,5
DC	---	28	34.5	41	47.5	59.5
DD	---	18.5	21	29.5	37	44.5
E	103	131	171	220	280	333
F	75	100	140	180	220	280
FE	90	116	156	200	260	313
G	---	50	70	90	110	140
J	3	3.5	4.5	5	6.5	8
M	15.5	20	25	33	42	54
N	M3 x 6	M4 x 7	M5 x 9	M6x 10	M8 x 12.5	M8 x 15
Ø O	∅3.5	∅4.5	∅5.5	∅7	∅7	∅9
☐ S	☐ 23.5	☐ 33	☐ 41	☐ 51	☐63	☐ 78
T	M3 x 7	M4 x 9	M5 x 10	M6 x 12	M8 x 12	M8 x 12
☐ U	☐ 30	☐ 42	☐ 52	☐ 63	78	☐ 93
W	39	53	65	79	☐96	113.5

Example for order :

ZS ∅25 Standard cylinder with stroke 100mm
Port standard
Port underneath

1	2	5	0	-	0	0	0	0	-	0	1	0	0
1	2	5	0	-	0	0	0	1	-	0	1	0	0
1	2	5	0	-	0	0	0	2	-	0	1	0	

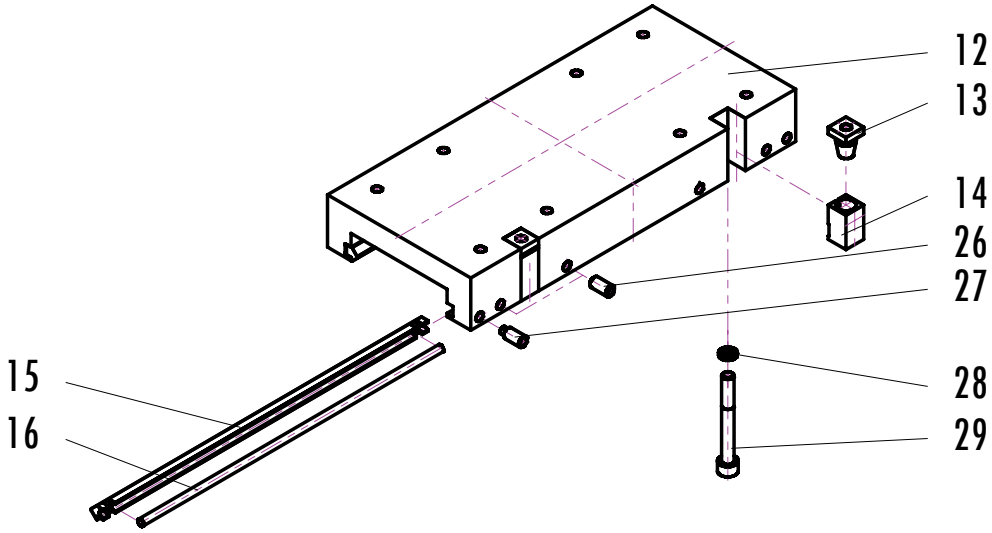


	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
A	57.5	67.5	77.5	95	105	125
AF	15	19	35	50	46	70
AM	10	13	16	22	29	40
B	16.5	20	20	23	23	29
C	6.5	8.5	8.5	13	13	13
CA	---	7	7	9.5	9.5	11
CB	---	13	13	14.5	14.5	18.5
D	M7x1 / 6	G1/8 x 8	G1/8 x 8	G1/4 x 12	G1/4 x 12	G3/8 x 12.5
DA	17.5	25.5	32	37.5	47.5	59.5
DB	---	14	17.5	20	26	30
DC	---	28	34.5	42	52	62
DD	---	18.5	21	29.5	37	44.5
E	58	66	86	110	130	153
F	30	35	55	70	70	100
FE	45	51	71	90	110	133
J	3	3.5	4.5	5	6.5	8
M	15.5	20	25	33	42	54
N	M3 x 6	M4 x 7	M5 x 9	M6 x 10	M8 x 12.5	M8 x 15
Ø O	∅3.5	∅4.5	∅5.5	∅7	∅7	∅9
□ S	□ 23.5	□ 33	□ 41	□ 51	□63	□ 78
T	M3 x 7	M4 x 9	M5 x 10	M 6 x 12	M8 x 12	M8 x 12
□ U	□ 30	□ 42	□ 52	□ 63	78	□ 93
W	39	53	65	79	96	113.5

Example for order :

ZK ∅25 Short cylinder with stroke 100mm
Port standard
Port underneath
One side port

2	2	5	0	-	0	0	0	0	-	0	1	0	0
2	2	5	0	-	0	0	0	1	-	0	1	0	0
2	2	5	0	-	0	0	0	2	-	0	1	0	0



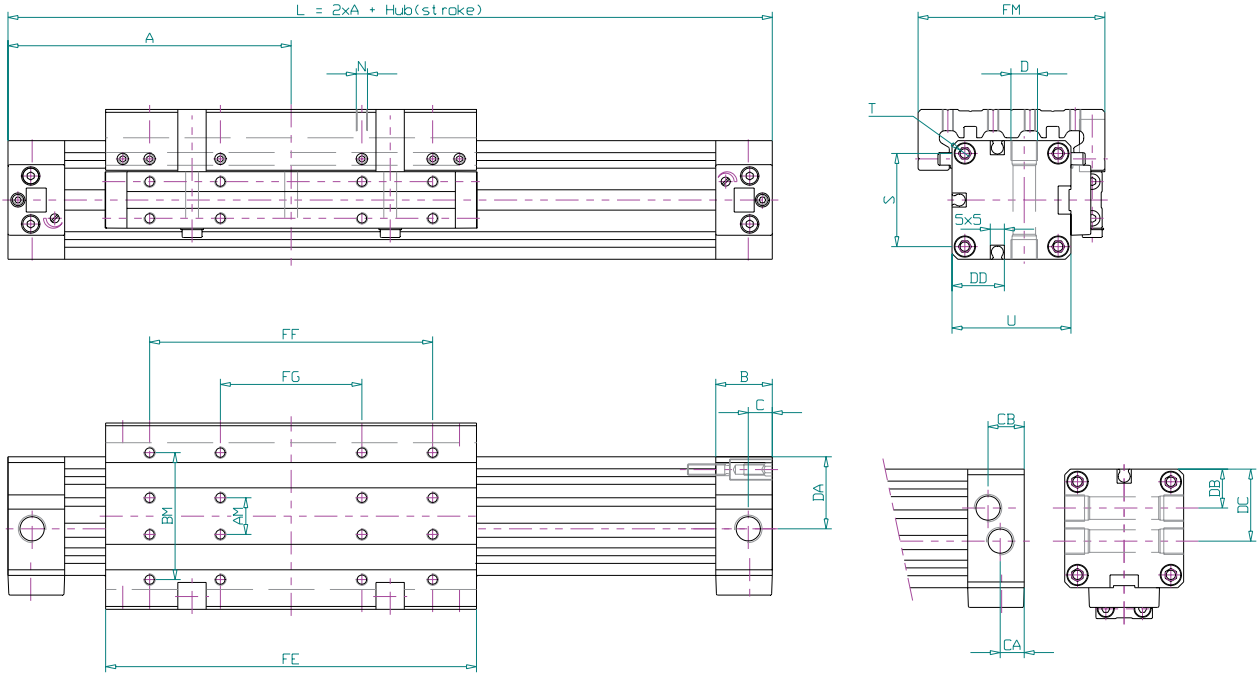
PART LIST

Pos.	Description	Materials
12	Carriage	Aluminium anodised
13	Cone nut	Zinc-plated steel
14	Clamp wedge	Aluminium anodised
15	Guiding bar	
16	Press bar	Stainless steel
26	Grub screw	Browned steel
27	Grub screw with pin	
28	Plain washer	Zinc-plated steel
29	Cylinder head screw	

GUIDING ZF/ZFK & ZFU/ZFF

Technical Information

- ZF and ZFK are the basic models equipped with external guiding. The carriage is equipped with guiding bars, running externally on casing pipe from the cylinder.
- ZFU with external guiding in the bottom, the force transmitted through an angle bracket.
- ZFF has 2 external guides for higher loads.
- If required, available with special wear resistant guiding bars.
- For more details regarding the cylinder, see also ZS and ZK.

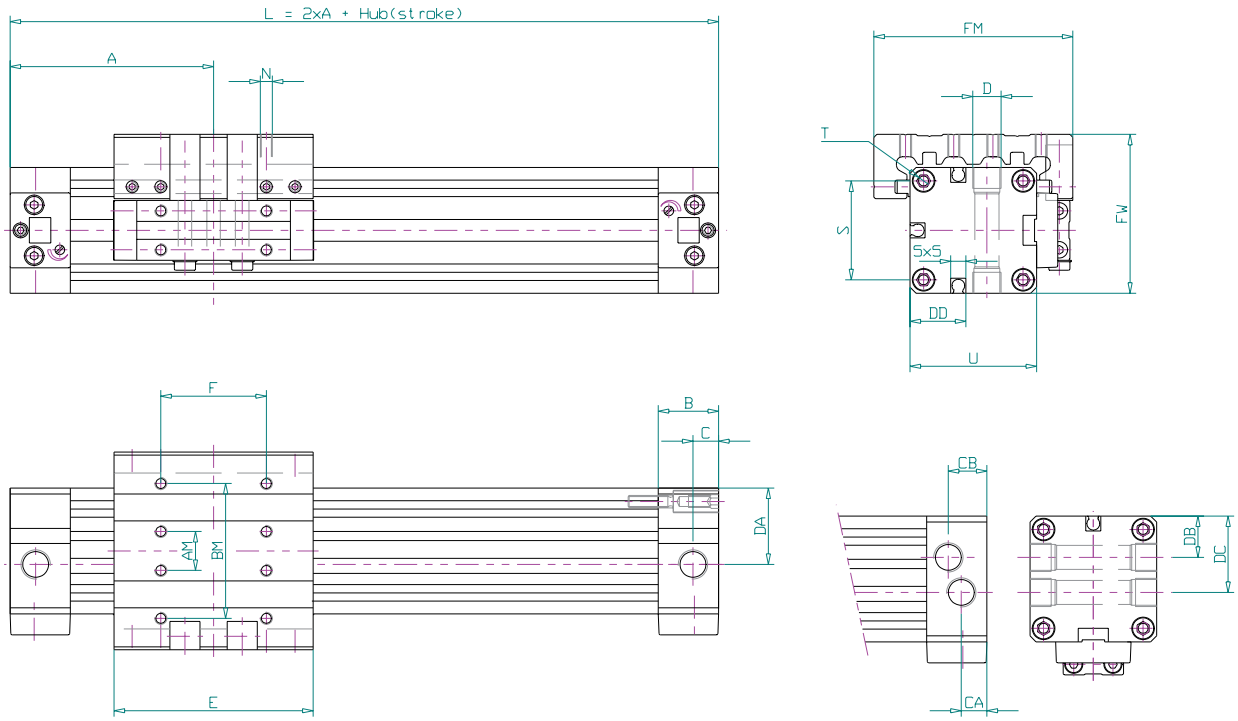


	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
A	57.5	67.5	77.5	95	105	125
AM	10	13	16	22	29	40
B	16.5	20	20	24	24	30
C	6.5	8.5	8.5	13	13	13
CA	---	7	7	9.5	9.5	11
CB	---	13	13	14.5	14.5	18.5
D	M7x1 / 6	G1/8 x 8	G1/8 x 8	G1/4 x 12	G1/4 x 12	G3/8 x 12.5
DA	17.5	25.5	32	37.5	47.5	59.5
DB	---	14	17.5	20	26	30
DC	---	28	34.5	42	52	62
DD	---	18.5	21	29.5	37	44.5
FE	105	131	171	220	280	333
FF	75	100	140	180	220	280
FG	---	50	70	90	110	140
FM	50	66	80	97	116	136
FW	39	53	65	79	96	113.5
N	M4 x 7.5	M4 x 8	M5 x 10	M6 x 12	M8 x 16	M8 x 16
☐S	☐ 23.5	☐ 33	☐ 41	☐ 51	☐ 63	☐ 78
T	M3 x 7	M4 x 9	M5 x 10	M6 x 12	M8 x 12	M8 x 12
☐ U	☐ 30	☐ 42	☐ 52	☐ 63	☐ 78	☐ 93

Example for order :

ZF ∅25 Guiding cylinder with stroke 100mm
Port standard
Port underneath
One side port

3	2	5	0	-	0	0	0	0	-	0	1	0	0
3	2	5	0	-	0	0	0	1	-	0	1	0	0
3	2	5	0	-	0	0	0	2	-	0	1	0	0

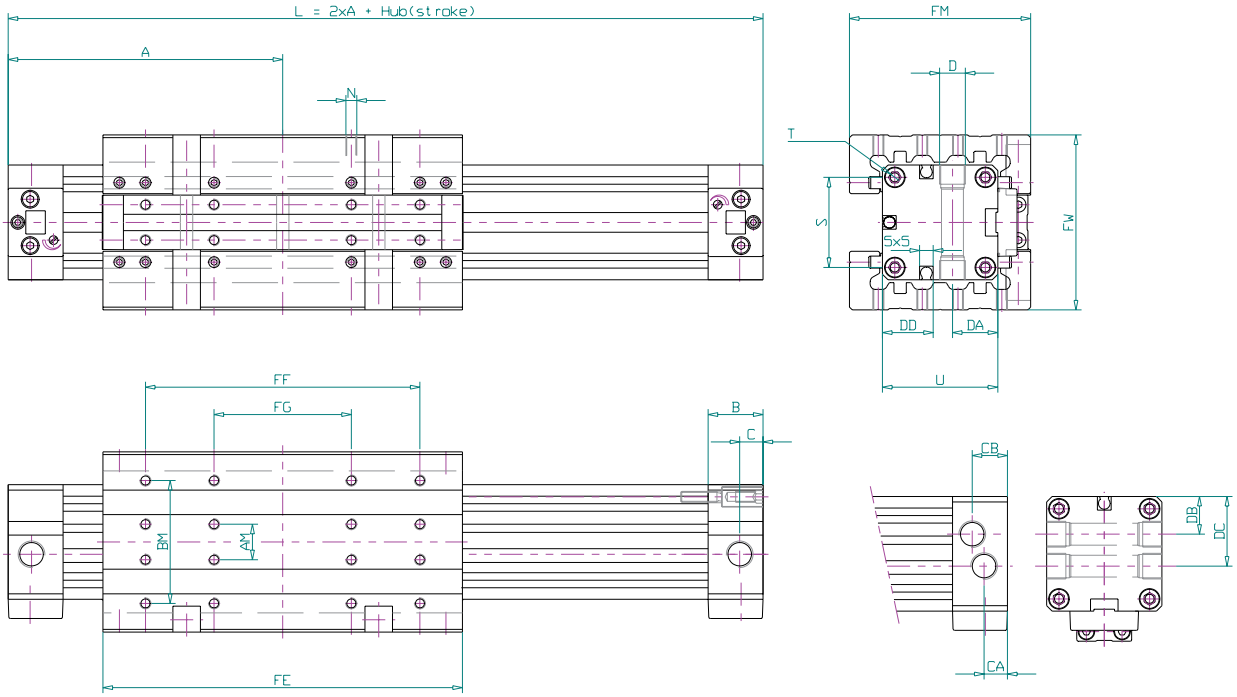


	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
A	57.5	67.5	77.5	95	105	125
AM	10	13	16	22	29	40
B	16.5	20	20	24	24	30
BM	35	45	55	70	85	105
C	6.5	8.5	8.5	13	13	13
CA	---	7	7	9.5	9.5	11
CB	---	13	13	14.5	14.5	18.5
D	M7x1 / 6	G1/8 x 8	G1/8 x 8	G1/4 x 12	G1/4 x 12	G3/8 x 12.5
DA	17.5	25.5	32	37.5	47.5	59.5
DB	---	14	17.5	20	26	30
DC	---	28	34.5	42	52	62
DD	15	21	26	31.5	39	46.5
E	58	66	86	110	130	153
F	30	35	155	70	70	100
FM	50a	66	80	97	116	136
FW	39	53	65	79	96	113.5
N	M4 x 7.5	M4 x 8	M5 x 10	M6 x 12	M8 x 16	M8 x 16
☐S	☐ 23.5	☐ 33	☐ 41	☐ 51	☐ 63	☐ 78
T	M3 x 7	M4 x 9	M5 x 10	M6 x 12	M8 x 12	M8 x 12
☐U	☐ 30	☐ 42	☐ 52	☐ 63	☐ 78	☐ 93

Example for order :

ZFK ∅25 Guiding cylinder with stroke 100mm
Port standard
Port underneath
One side port

3	2	5	0	-	0	0	0	0	-	0	1	0	0
3	2	5	0	-	0	0	0	1	-	0	1	0	0
3	2	5	0	-	0	0	0	2	-	0	1	0	0



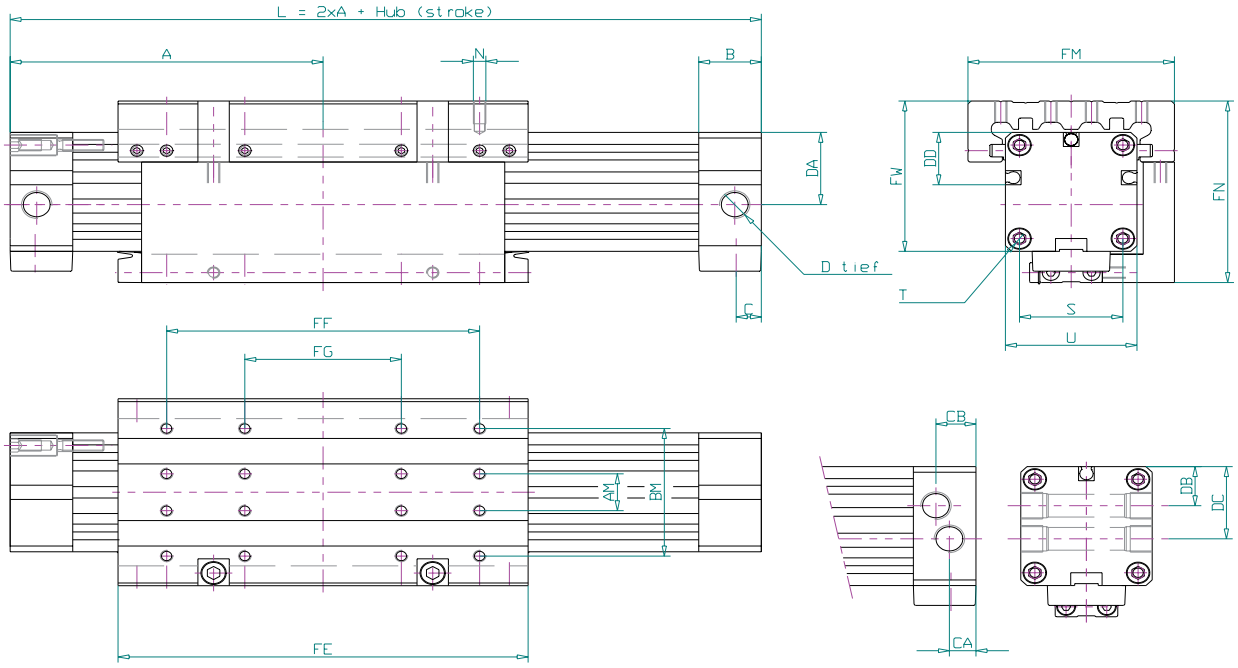
	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
A	80	100	120	150	180	215
AM	10	13	16	22	29	40
B	16.5	20	20	24	24	30
BM	35	45	55	70	85	105
C	6.5	8.5	8.5	13	13	13
CA	---	7	7	9.5	9.5	11
CB	---	13	13	14.5	14.5	18.5
D	M7x1 / 6	G1/8 x 8	G1/8 x 8	G1/4 x 12	G1/4 x 12	G3/8 x 12.5
DA	17.5	25.5	32	37.5	47.5	59.5
DB	---	14	17.5	20	26	30
DC	---	28	34.5	42	52	62
DD	---	18.5	21	29.5	37	44.5
FE	103	131	171	220	280	333
FF	75	100	140	180	220	280
FG	--	50	70	90	110	140
FM	50	66	80	97	116	136
FW	48	64	78	95	114	134
N	M4 x 7.5	M4 x 8	M5 x 10	M6 x 12	M8 x 16	M8 x 16
□ S	□ 23.5	□ 33	□ 41	□ 51	□ 63	□ 78
T	M3 x 7	M4 x 9	M5 x 10	M6 x 12	M8 x 12	M8 x 12
□ U	□ 30	□ 42	□ 52	□ 63	□ 78	□ 93

Example for order :

ZFF ∅25 Guiding cylinder with stroke 100mm
Port standard
Port underneath
One side port

3	2	5	1	-	0	0	0	0	-	0	1	0	0
3	2	5	1	-	0	0	0	1	-	0	1	0	0
3	2	5	1	-	0	0	0	2	-	0	1	0	0

ZFU Guiding Cylinder

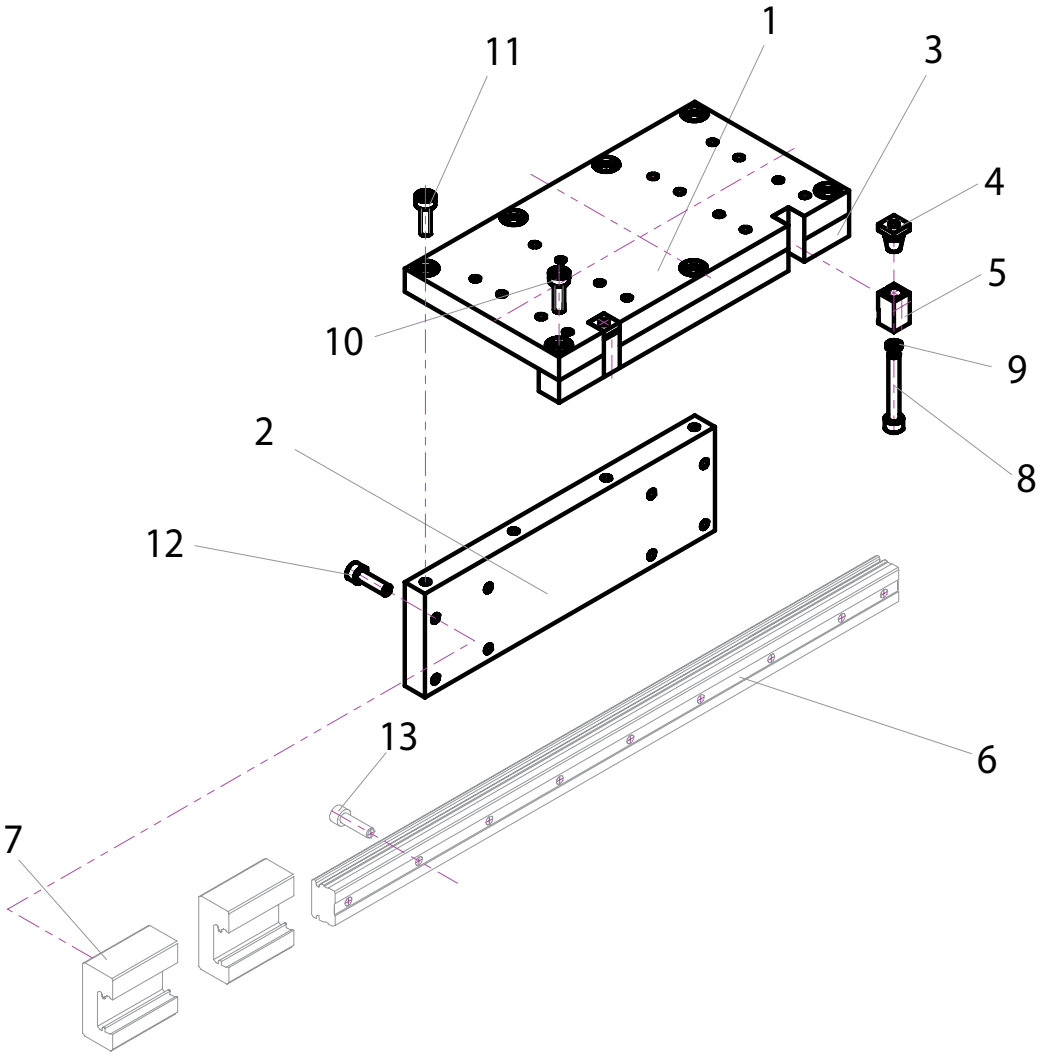


	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
A	80	100	120	150	180	215
AM	10	13	16	22	29	40
B	16.5	20	20	24	24	30
BM	35	45	55	70	85	105
C	6.5	8.5	8.5	13	13	13
CA	---	7	7	9.5	9.5	11
CB	---	13	13	14.5	14.5	18.5
D	M7x1 / 6	G1/8 x 8	G1/8 x 8	G1/4 x 12	G1/4 x 12	G3/8 x 12.5
DA	17.5	25.5	32	37.5	47.5	59.5
DB	---	14	17.5	20	26	30
DC	---	28	34.5	42	52	62
DD	---	18.5	21	29.5	37	44.5
FE	103	131	171	220	280	333
FF	75	100	140	180	220	280
FG	--	50	70	90	110	140
FN	48	64	78	95	114	134
FM	50	66	80	97	116	136
FW	39	53	65	79	96	113.5
N	M4 x 7.5	M4 x 8	M5 x 10	M6 x 12	M8 x 16	M8 x 16
□ S	□ 23.5	□ 33	□ 41	□ 51	□ 63	□ 78
T	M3 x 7	M4 x 9	M5 x 10	M6 x 12	M8 x 12	M8 x 12
□ U	□ 30	□ 42	□ 52	□ 63	□ 78	□ 93

Example for order :

ZFU ∅25 Guiding cylinder with stroke 100mm
Port standard
Port underneath
One side port

3	2	5	5	-	0	0	0	0	-	0	1	0	0
3	2	5	5	-	0	0	0	1	-	0	1	0	0
3	2	5	5	-	0	0	0	2	-	0	1	0	0



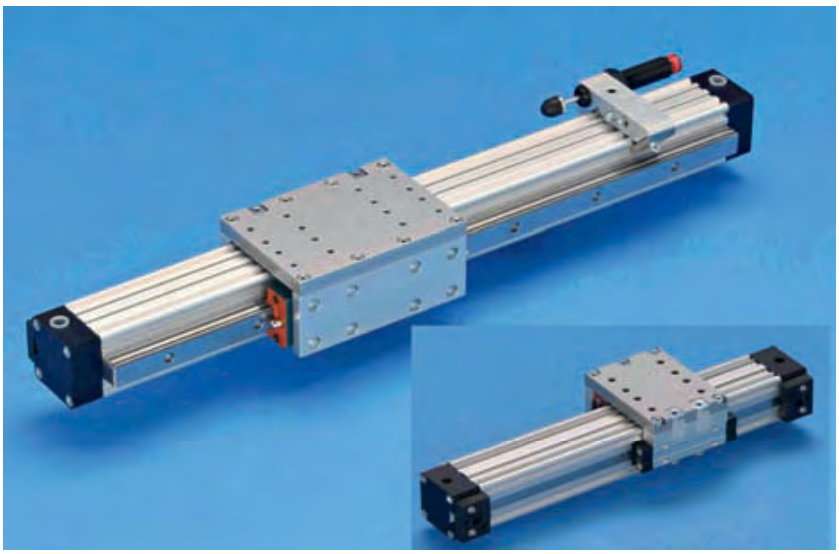
PART LIST

Pos.	Description	Materials
1	Fixing plate	Aluminium anodised
2	Rail plate	
3	Distance plate	
4	Cone nut	Zinc-plated steel
5	Clamp wedge	Aluminium anodised
6	Rail	Depending on supplier
7	Carriage	
8	Cylinder head screw	Zinc-plated steel
9	Plain washer	
10 - 13	Cylinder head screw	

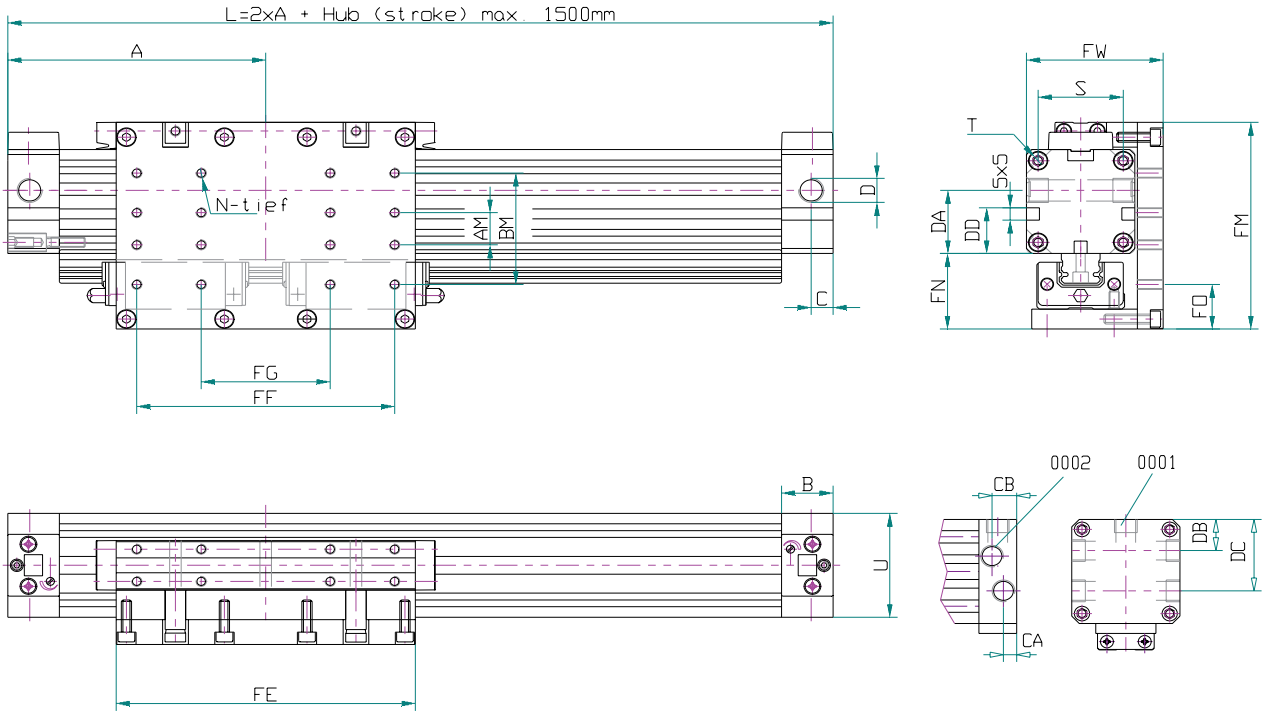
GUIDING ZSS/ZKS

Technical Information

- ZSS and ZKS have been designed for higher loads.
- By mounting a linear guide way on the bottom side of the cylinder, very high loads and moments can be carried forward
- Maximum stroke 3000 mm, longer on
- ZSS with two guiding carriages and a fitting length just like the ZS standard cylinder.
- ZKS with a guiding carriage



ZSS/ZKS Guiding cylinder Ø	Force at 6 bar	Weight ZSS	Weight ZKS	Weight / stroke
18	140 N	1 kg	0.8 kg	2.5kg / 1000mm
25	270 N	1.6 kg	1.4 kg	4.0kg / 1000mm
32	440 N	2.5 kg	2.2 kg	5.8kg /1000mm
40	680 N	3.8 kg	3.2 kg	8.3kg /1000mm
50	1060 N	5.9 kg	5.6 kg	12.1kg /1000mm
63	1680 N	9 kg	8.5 kg	15.5kg /1000mm

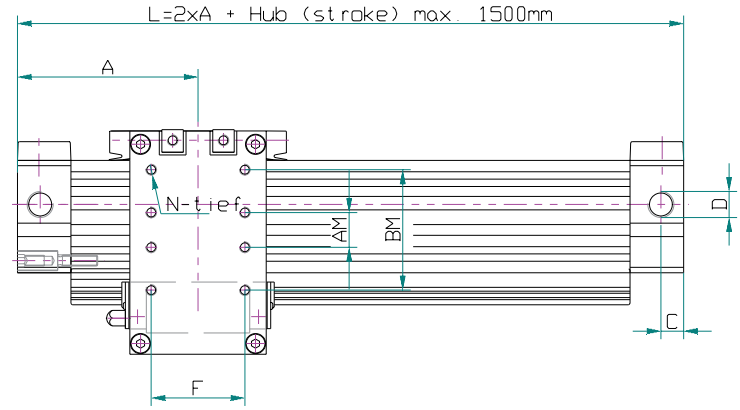


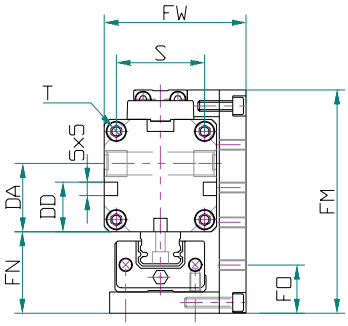
	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
A	80	100	120	150	180	215
AM	10	13	16	22	29	40
B	16.5	20	20	24	24	30
BM	35	45	55	70	85	105
C	6.5	8.5	8.5	13	13	13
CA	---	7	7	9.5	9.5	11
CB	---	13	13	14.5	14.5	18.5
D	M7x1 / 6	G1/8 x 8	G1/8 x 8	G1/4 x 12	G1/4 x 12	G3/8 x 12
DA	15.5	25.5	32	37.5	47.5	59.5
DB	---	14	17.5	20	26	30
DC	---	28	34.5	42	52	62
DD	---	18.5	21	29.5	37	44.5
FE	90	116	156	220	260	313
FF	75	100	140	180	220	280
FG	--	50	70	90	110	140
FM	60.5	83.5	101	120	151	168.5
FW	39	53	65	79	96	113.5
FN	20.5	30.5	36	41	55	55
FO	13	18	22	25	33	32
N	M4 x 8	M4 x 8	M5 x 10	M6 x 12	M8 x 16	M8 x 16
☐ S	☐ 23.5	☐ 33	☐ 41	☐ 51	☐ 63	☐ 78
T	M3 x 7	M4 x 9	M5 x 10	M6 x 12	M8 x 12	M8 x 12
☐ U	☐ 30	☐ 42	☐ 52	☐ 63	☐ 78	☐ 93

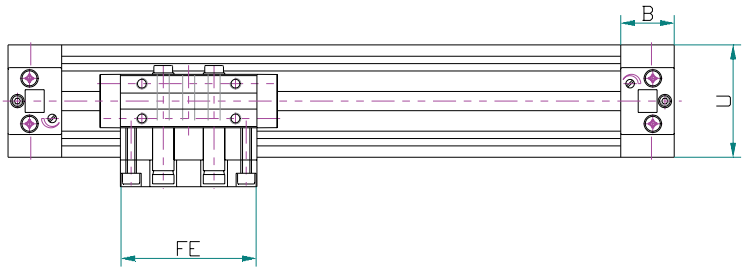
Example for order :

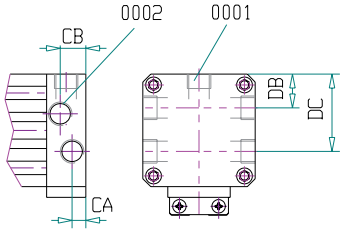
ZSS ∅25 Guiding cylinder with stroke 100mm
Port standard
Port underneath
One side port

1	2	5	3	-	0	0	0	0	-	0	1	0	0
1	2	5	3	-	0	0	0	1	-	0	1	0	0
1	2	5	3	-	0	0	0	2	-	0	1	0	0









	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
A	57.5	67.5	77.5	95	105	125
AM	10	13	16	22	29	40
B	16.5	20	20	23	23	29
BM	35	45	55	70	85	105
C	6.5	8.5	8.5	13	13	13
CA	---	7	7	9.5	9.5	11
CB	---	13	13	14.5	14.5	18.5
D	M7x1 / 6	G1/8 x 8	G1/8 x 8	G1/4 x 12	G1/4 x 12	G3/8 x 12
DA	15.5	25.5	32	37.5	47.5	59.5
DB	---	14	17.5	20	26	30
DC	---	28	34.5	42	52	62
DD	---	18.5	21	29.5	37	44.5
FE	45	51	71	90	110	133
F	30	35	55	70	70	100
FM	60.5	83.5	101	120	151	168.5
FN	20.5	30.5	36	41	55	55
FO	13	18	22	25	33	32
FW	39	53	65	79	96	113.5
N	M4 x 8	M4 x 8	M5 x 10	M6 x 12	M8 x 16	M8 x 16
□ S	□ 23.5	□ 33	□ 41	□ 51	□ 63	□ 78
T	M3 x 7	M4 x 9	M5 x 10	M6 x 12	M8 x 12	M8 x 12
□ U	□ 30	□ 42	□ 52	□ 63	□ 78	□ 93

Example for order :

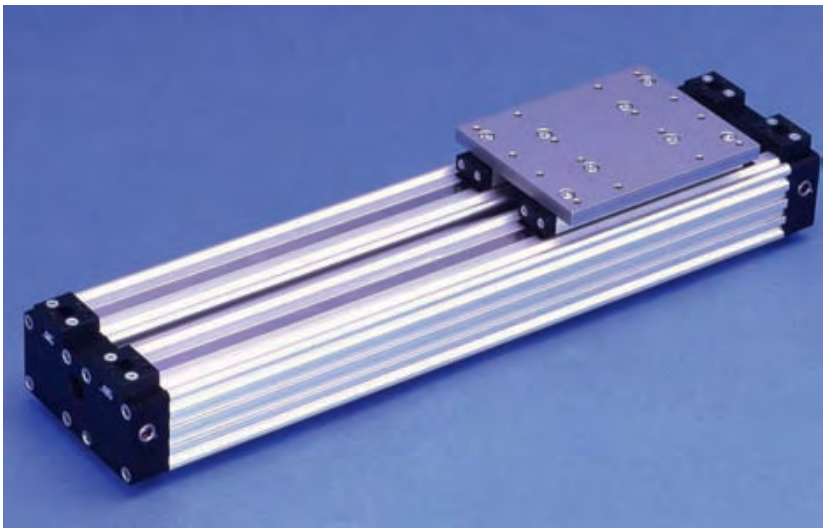
ZKS ∅25 Guiding cylinder with stroke 100mm
Port standard
Port underneath
One side port

2	2	5	3	-	0	0	0	0	-	0	1	0	0
2	2	5	3	-	0	0	0	1	-	0	1	0	0
2	2	5	3	-	0	0	0	2	-	0	1	0	0

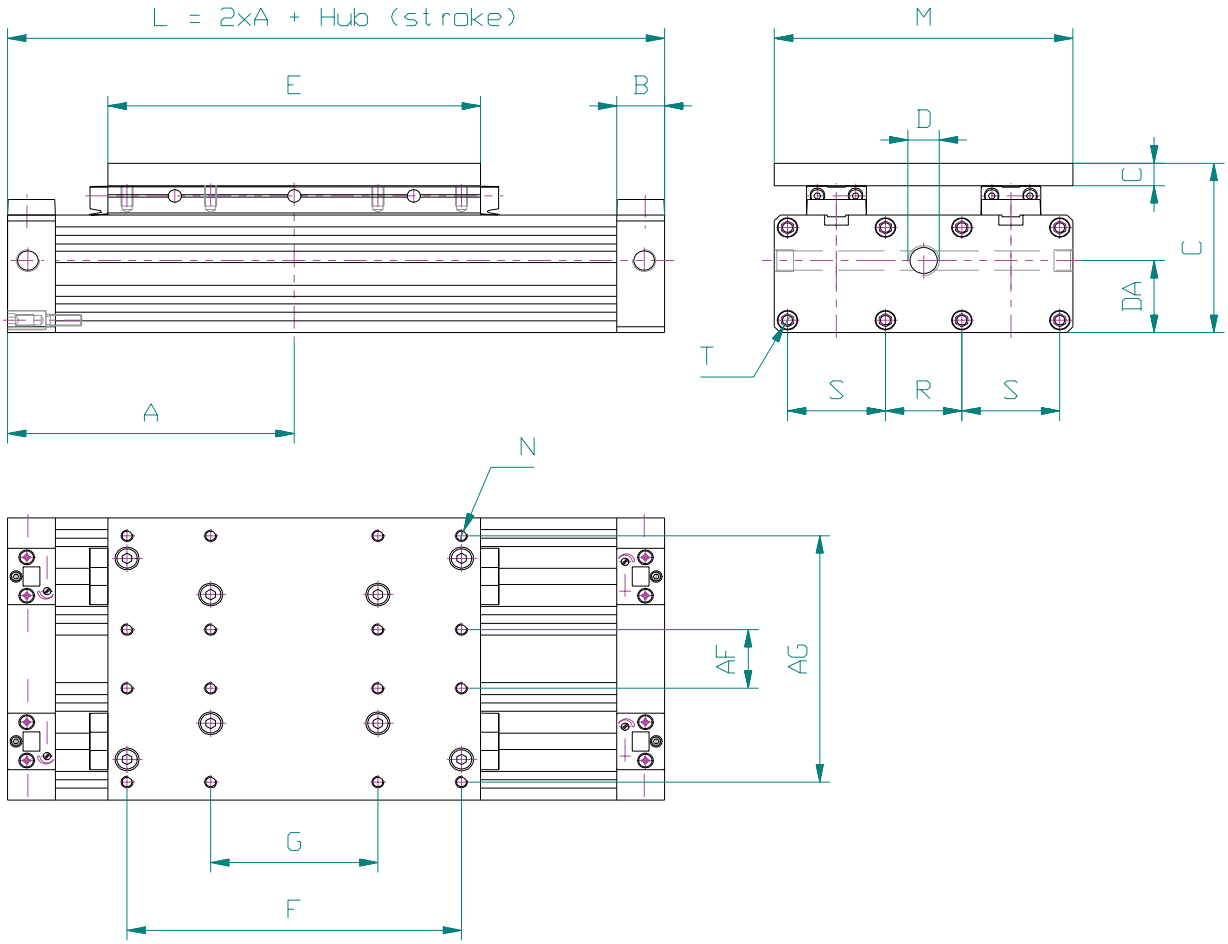
PARALELL ZP

Technical Information

- Designed flat and with double force, the Parallel cylinder with central port on the special end caps does also absorb higher forces. The yokes are aligned true a plate
- The load can be multiplied and the action force doubled by adjusting two rodless pneumatic cylinders parallel.
- The parallel cylinder can overall be used where big parts must be moved, e.g.:
  - workpieces on machining centers
  - assembling machines
  - transport systems
  - stroke systems with limited adjusting length
- Port rotatable in the middle and upwards, in and outside
- Cushioned end positions are adjustable



ZP Guiding cylinder ∅	Force at 6 bar	Cushioning	Weight	Weight / stroke
25	540 N	18 mm	1.2 kg	5.2 kg / 1000mm
32	880 N	24 mm	2.6 kg	7.2 kg /1000mm
40	1360 N	34 mm	4.6 kg	9.8 kg /1000mm
50	2120 N	40 mm	8.2 kg	15 kg /1000mm
63	3360 N	49 mm	13.6 kg	20 kg /1000mm



	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
A	100	120	150	180	215
B	20	20	24	24	30
C	8.5	8.5	13	13	13
D-deep	G1/4 – 11.7	G1/4 – 11.7	G3/8 – 11.7	G3/8 – 11.7	G1/2 – 13
DA	25.5	32	37.5	47.5	59.5
E	116	156	200	260	313
F	100	140	180	220	280
G	50	70	90	110	140
AF	21	26	35	44	55
AG	79	109	133	164	195
M	92	125	153	184	218
N	M4	M5	M6	M8	M8
R	17	32	45	43	47
S	33 x 33	41 x 41	51 x 51	63 x 63	78 x 78
T	M4 x 9	M5 x 10	M6 x 12	M8 x 12	M8 x 12
W	61	75	91	111	128.5

Example for order :
ZP ∅25 Paralell cylinder with stroke 100mm

4	2	5	0	-	0	0	0	0	-	0	1	0	0

GUIDING WITH SAFETY UNIT ZFB

Technical Information

- Well-tested technique of locking units
- Gripping stronger than action power of cylinder
- Locking unit with external slide guide
- Locking unit can be mounted later
- Locking unit can be easily replaced
- Small construction height

Further Information for the ZFB

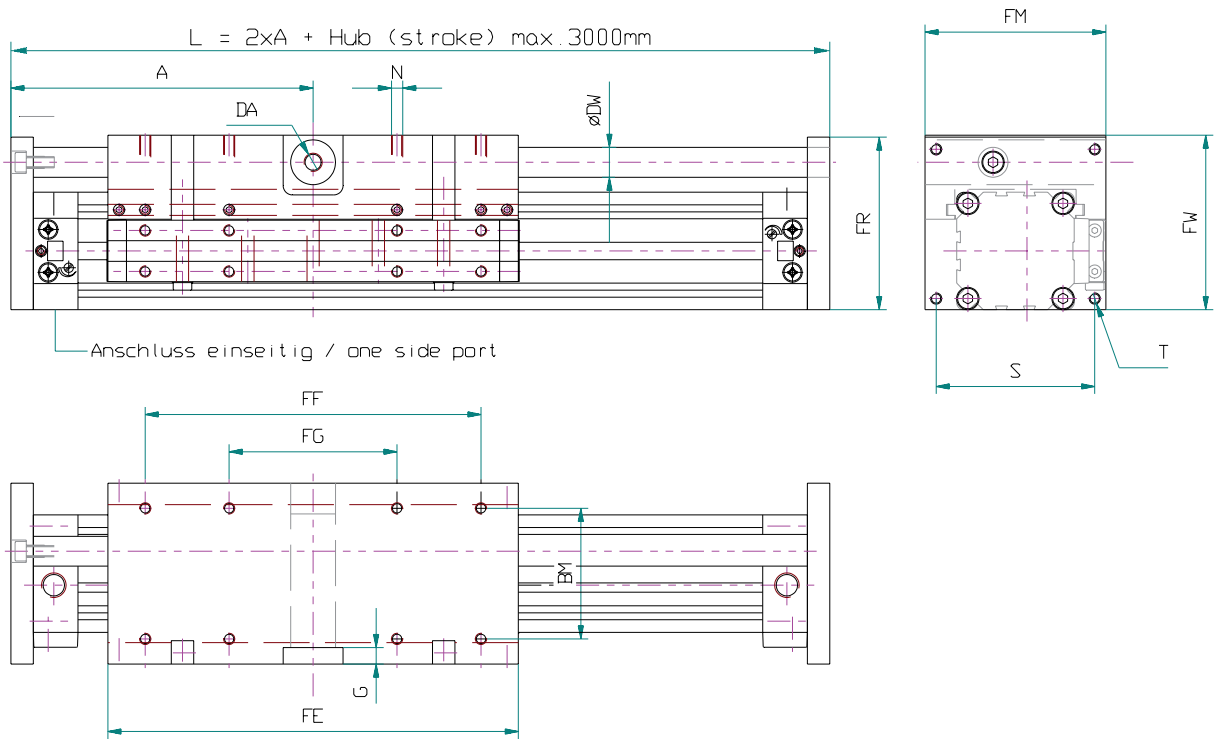
The holding power Fb mentioned in the data sheet refers to statistical capacity only. A sliding can occur if you do not adhere to this maximum figure. The powers acting in such a dynamical use may under no circumstances go above the statistical figures.

In addition to that the holding powers can be slightly diminished if the guide rod is not dry.

For use with rodless pneumatic cylinder we generally recommend control with 5/3 way valve with open middle position.

The valve control must be adjusted in such a way that for a stop in between the yoke must be geared with air pressure on both sides and only then can the safety unit be switched pressureless.

While releasing, the cylinder should also be under pressure on both sides to avoid a jerky movement of the yoke (danger of accident).



	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
A	86	110	130	162	195	230
BM	35	45	55	70	85	105
D-deep	M5-5.5	G1/8 – 7.7	G 1/8 – 7.7	G1/4 – 11.7	G1/4 – 11.7	G3/8 – 11.7
DA	M5	M5	M5	G1/8	G1/8	G1/8
DW	Ø 6	Ø 12	Ø 12	Ø 16	Ø 20	Ø 20
FE	103	131	171	220	280	333
FF	75	100	140	180	220	280
FG	--	50	70	90	110	140
FM	50	66	80	97	116	136
FW	48	67	79	93.5	11.5	139
FR	47	66	78	92.5	114.5	138
G	6	--	5	--	--	--
N-deep	M4 – 7.5	M4 - 8	M5 - 10	M6 - 12	M8 - 16	M8 – 16
S	42	54	68	80	100	120
T	M3	M4	M5	M6	M8	M8
U	6	10	10	12	15	15
Fb	180N	600N	600N	1000N	1400N	2200N

Example for order :
ZFB ∅25 Guiding cylinder with stroke 100mm
Active (Jam under pressure)

3	2	5	3	-	0	0	0	0	-	0	1	0	0

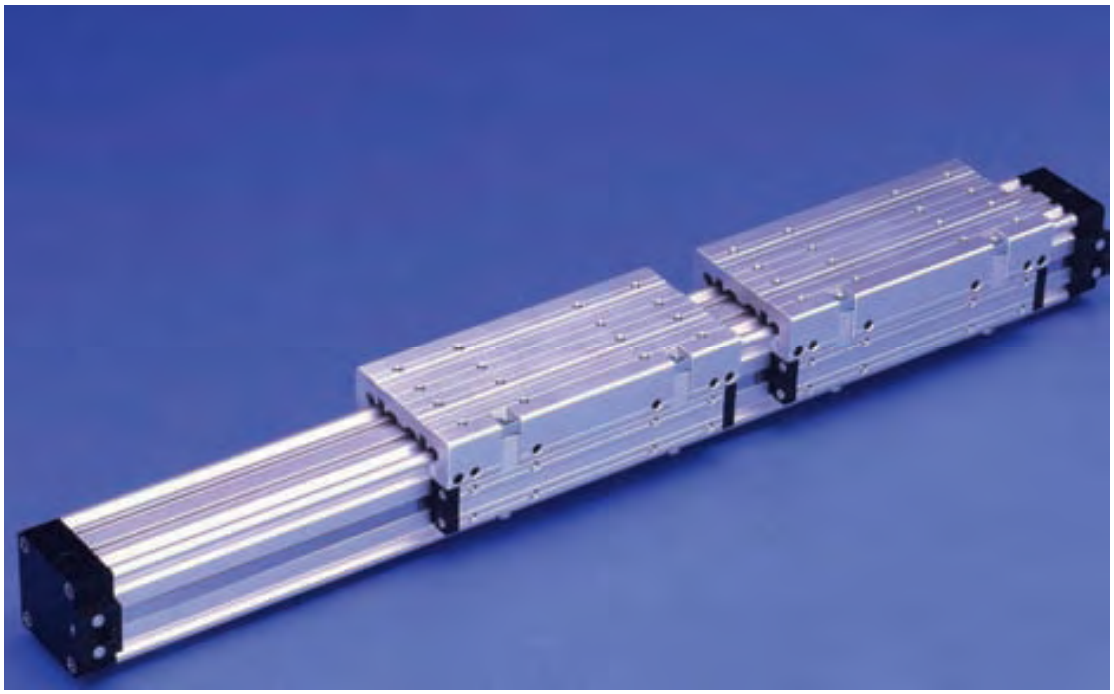
Example for order :
ZFB ∅25 Guiding cylinder with stroke 100mm
Passive (Release under pressure)

3	2	5	4	-	0	0	0	0	-	0	1	0	0

TANDEM ZT

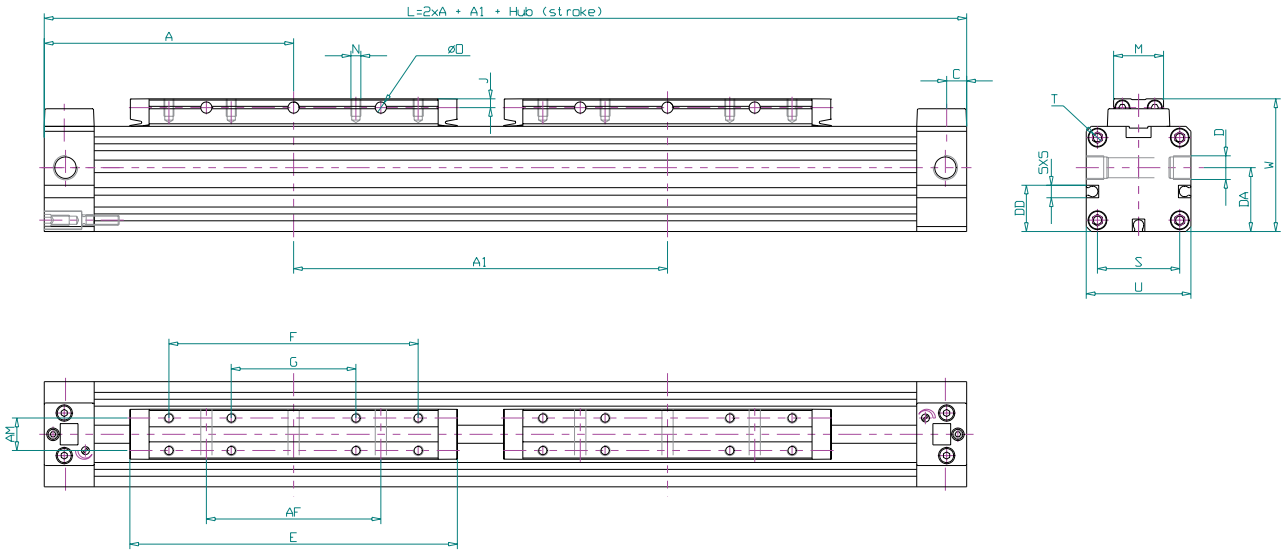
Technical Information

- The tandem cylinder was developed for higher moments in longitudinal direction and to mount bulky work pieces on the yoke.
- By mounting two yokes, resp. two guide carriages, a higher moment can be transmitted.
- The tandem cylinders can overall be applied where big masses are to be lifted such as:
  - stretcher of lifting equipment
  - spraying lances
  - lifting equipment
- Adjustable stroke
- Combination as parallel and tandem cylinder
- Cushioned end positions are adjustable



ZT Tandem cylinder Ø	Force at 6 bar	Cushioning	Weight	Weight / stroke
18	140 N	15 mm	0.6 kg	1.5 kg /1000mm
25	270 N	18 mm	1.3 kg	2.6 kg / 1000mm
32	440 N	24 mm	3.6 kg	3.6 kg /1000mm
40	680 N	34 mm	6.2 kg	4.9 kg /1000mm
50	1060 N	40 mm	11.1 kg	7.5 kg /1000mm
63	1680 N	49 mm	18.6 kg	10 kg /1000mm

ZTS Tandem Cylinder

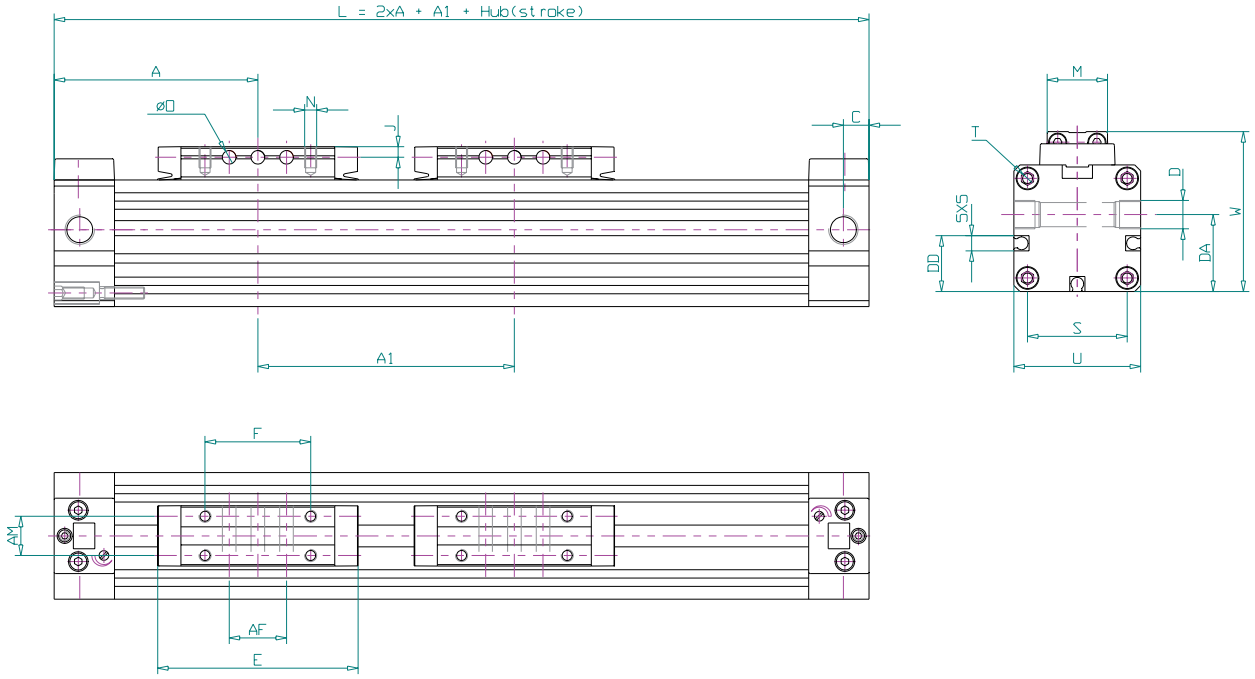


	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
A	80	100	120	150	180	215
A1 min.	127	160	200	252	312	370
AF	50	70	100	140	180	230
AM	10	13	16	22	29	40
C	6.5	8.5	8.5	13	13	13
D	M7x1 / 6	G1/8 x 7.7	G1/8 x 7.7	G1/4 x 11.7	G1/4 x 11.7	G3/8 x 11.7
DA	17.6	25.5	31.9	37.7	47.6	56
E	103	131	171	220	280	333
F	75	100	140	180	220	280
G	---	50	70	90	110	140
J	3	3.5	4.5	5	6.5	8
M	15.5	20	25	33	42	54
N	M3 x	M4 x 7	M5 x 9	M6 x 10	M8 x 12.5	M8 x 15
Ø O	∅3.5	∅4.5	∅5.5	∅7	∅7	∅9
☐ S	☐ 23.5	☐ 33	☐ 41	☐ 51	☐ 63	☐ 78
T	M3 x 7	M4 x 9	M5 x 10	M6 x 12	M8 x 12	M8 x 12
☐ U	☐ 30	☐ 42	☐ 52	☐ 63	☐ 78	☐ 93
W	39	53	65	79	96	113.5

Example for order :
ZTS ∅25 Tandem cylinder distance A1 200mm
with stroke 100mm

6	2	5	1	-	0	2	0	0	-	0	1	0	0

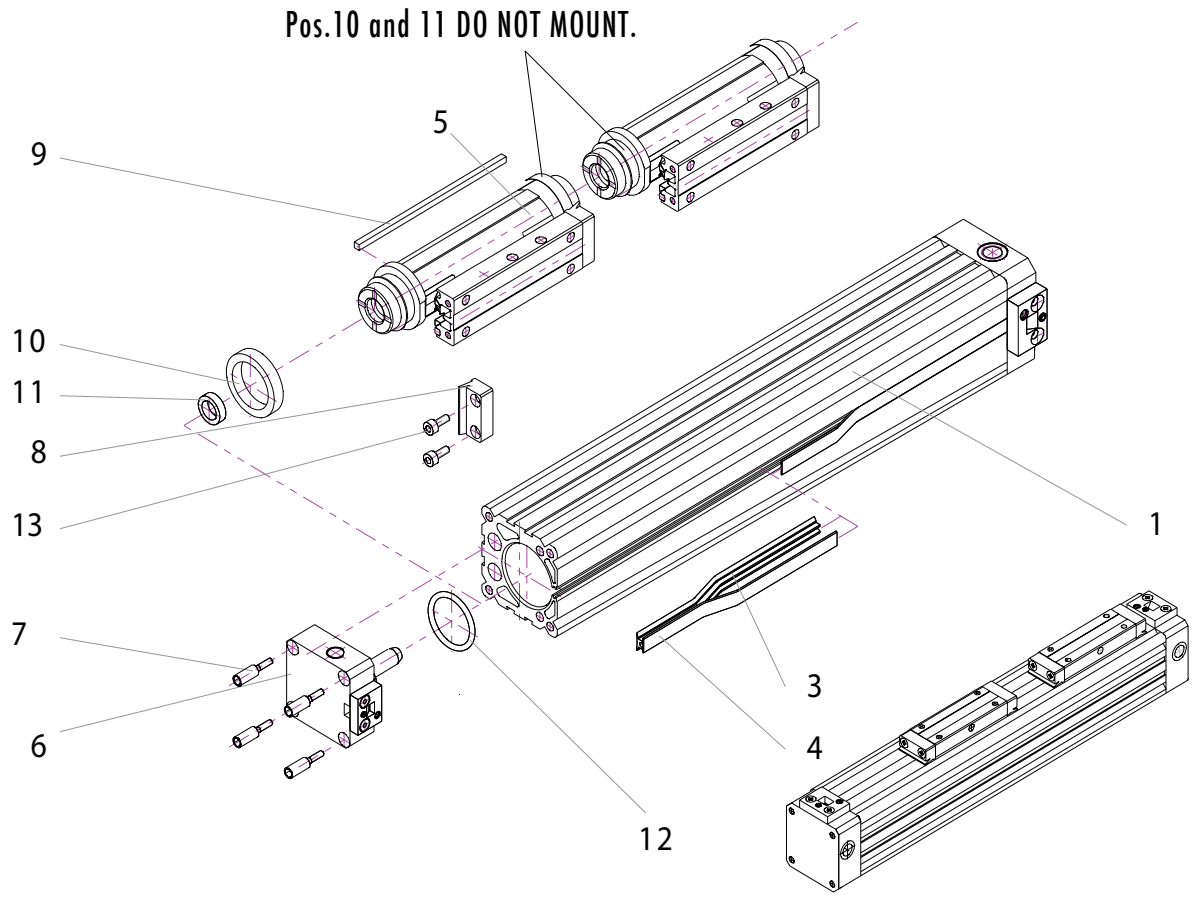
ZTK Tandem Cylinder



	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
A	80	100	120	150	180	215
A1 min.	82	95	115	142	162	190
AM	10	13	16	22	29	40
C	6.5	8.5	8.5	13	13	13
D	M7x1 / 6	G1/8 x 7.7	G1/8 x 7.7	G1/4 x 11.7	G1/4 x 11.7	G3/8 x 11.7
DA	17.6	25.5	31.9	37.7	47.6	56
E	58	66	86	110	130	153
F	30	35	55	70	70	100
J	3	3.5	4.5	5	6.5	8
M	15.5	20	25	33	42	54
N	M3 x	M4 x 7	M5 x 9	M6 x 10	M8 x 12.5	M8 x 15
Ø O	∅3.5	∅4.5	∅5.5	∅7	∅7	∅9
☐ S	☐ 23.5	☐ 33	☐ 41	☐ 51	☐ 63	☐ 78
T	M3 x 7	M4 x 9	M5 x 10	M6 x 12	M8 x 12	M8 x 12
☐U	☐ 30	☐ 42	☐ 52	☐ 63	☐ 78	☐ 93
W	39	53	65	79	96	113.5

Example for order :
ZTK ∅25 Tandem cylinder distance A1 200mm
with stroke 100mm

6	2	5	2	-	0	2	0	0	-	0	1	0	0



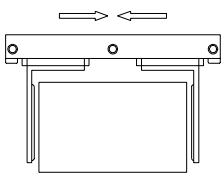
PART LIST

Pos.	Description	Materials
1	Tube	Aluminium anodised
3	Sealing strip	PA
4	Cover strip	Stainless steel
5	Yoke (2 pieces)	Aluminium anodised/POM
6	Endcap	Aluminium anodised
7	Special screw	Zinc-plated steel
8	Head wiper	POM
9	Wiper	
10	Piston seal (1 pair)	PU
11	Cushion ring	NBR
12	O-Ring	
13	Cylinder head screw	Zinc-plated steel

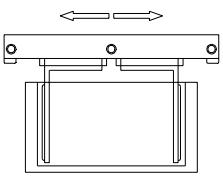
GRIPPING ZG

Technical Information

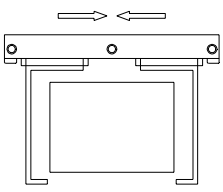
- The gripping cylinder can be used for various functions such as:
  - outside gripping of working pieces
  - inside gripping of cavity
  - low gripping of bigger parts
  - opening and closing functions
- Clamping force can be adjusted by regulating the air pressure.
- Adjustable end cushioning.
- Individual stearing of the grippers, also with more then 2 cylinder in one tube.
- Double action the same direction possible.
- In case of the version ZGF there are additional stroke regulation units to limit the stroke length and to make a fine adjustment with a very high repetition accuracy of +/- 0.1 mm.



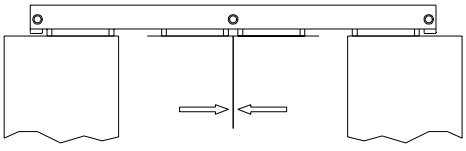
Gripping outside



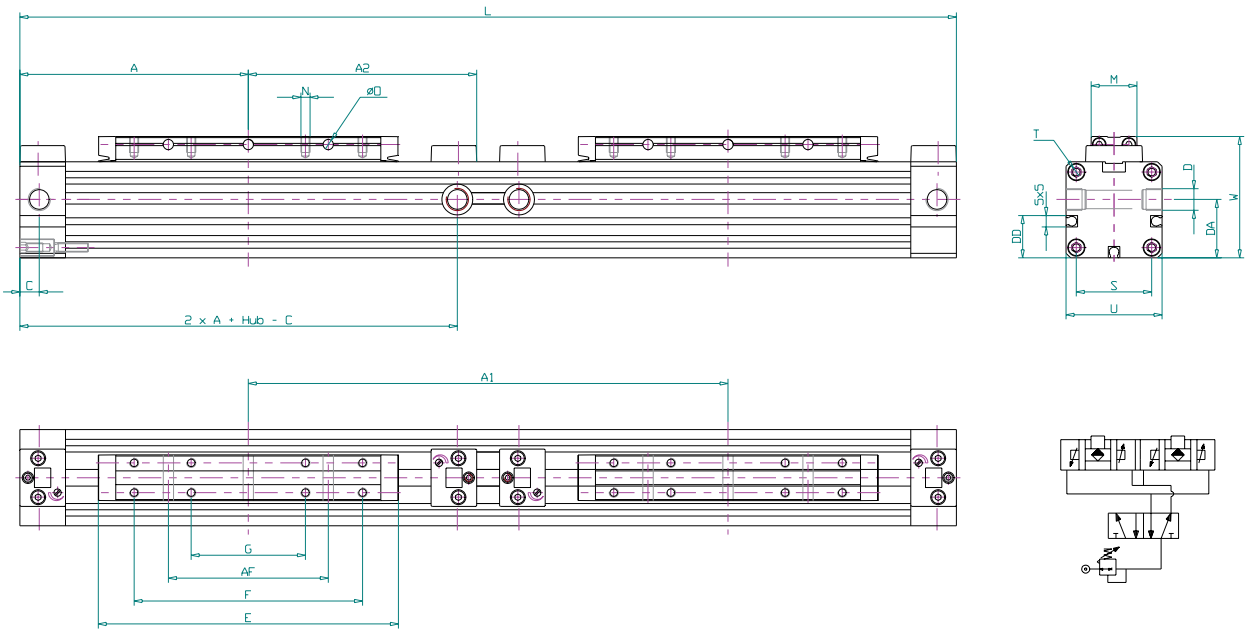
Gripping inside



Low gripping



Opening and closing of doors

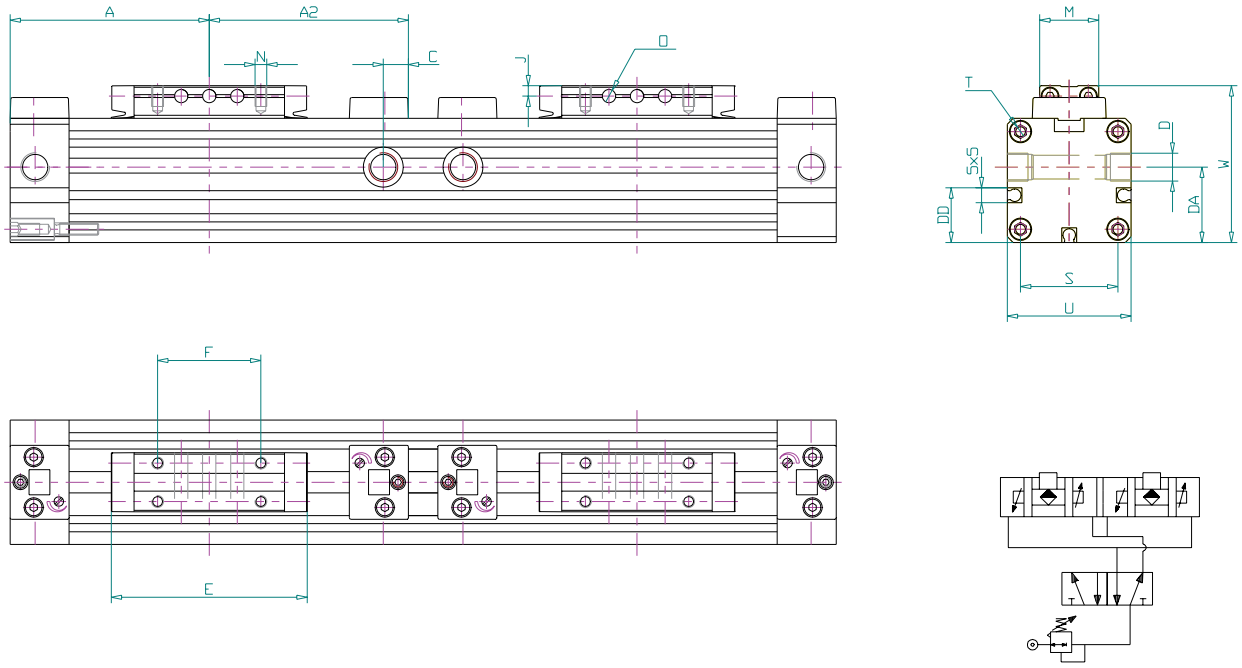


	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
A	80	100	120	150	180	215
A1 min.	160	200	240	300	360	430
A2	A + Hub / Stroke					
AF	50	70	100	140	180	230
AM	10	13	16	22	29	40
C	6.5	8.5	8.5	13	13	13
D	M7x1 / 6	G1/8 x 7.7	G1/8 x 7.7	G1/4 x 11.7	G1/4 x 11.7	G3/8 x 11.7
DA	17.6	25.5	31.9	37.7	47.6	56
DD	---	18.5	21	29.5	37	44.5
E	103	131	171	220	280	333
F	75	100	140	180	220	280
G	----	50	70	90	110	140
J	3	3.5	4.5	5	6.5	8
L	2 x A + A1					
M	15.5	20	25	33	42	54
N	M3 x 6	M4 x 7	M5 x 9	M6 x 10	M8 x 12.5	M8 x 15
Ø O	∅3.5	∅4.5	∅5.5	∅7	∅7	∅9
☐ S	☐ 23.5	☐ 33	☐ 41	☐ 51	☐ 63	☐ 78
T	M3 x 7	M4 x 9	M5 x 10	M6 x 12	M8 x 12	M8 x 12
☐U	☐ 30	☐ 42	☐ 52	☐ 63	☐ 78	☐ 93
W	39	53	65	79	96	113.5

Example for order :
ZGS ∅25 Gripping cylinder distance A1 (open)4 00mm
with stroke 100mm

5	2	5	0	-	0	4	0	0	-	0	1	0	0

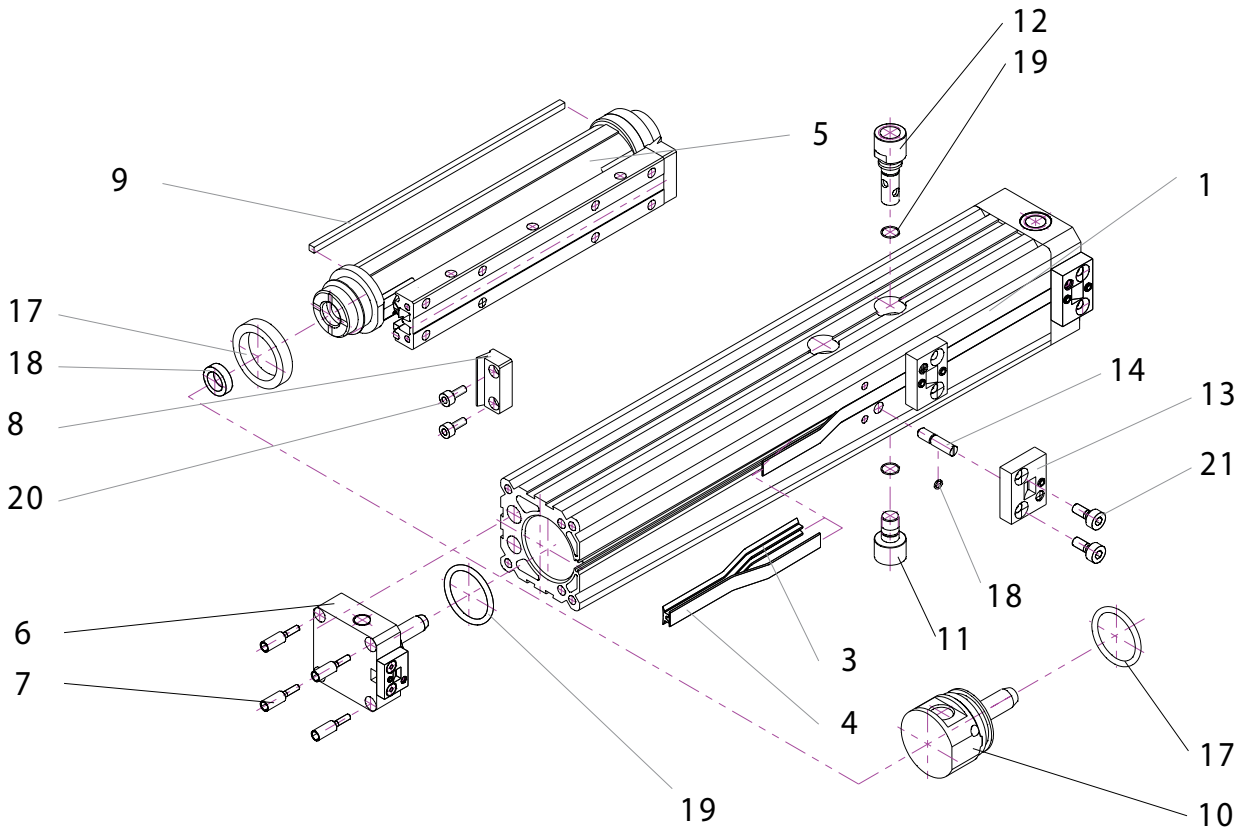
ZGK Gripping Cylinder



	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
A	57.5	67.5	77.5	95	105	125
A1 min.	115	135	155	190	210	250
A2	A + Hub / Stroke					
AM	10	13	16	22	29	40
C	6.5	8.5	8.5	13	13	13
D	M7x1 / 6	G1/8 x 7.7	G1/8 x 7.7	G1/4 x 11.7	G1/4 x 11.7	G3/8 x 11.7
DA	17.6	25.5	31.9	37.7	47.6	56
E	58	66	86	110	130	153
F	30	35	55	70	70	100
G	----	50	70	90	110	140
J	3	3.5	4.5	5	6.5	8
L			2 x A + A1			
M	15.5	20	25	33	42	54
N	M3 x 6	M4 x 7	M5 x 9	M6 x 10	M8 x 12.5	M8 x 15
Ø O	∅3.5	∅4.5	∅5.5	∅7	∅7	∅9
☐ S	☐ 23.5	☐ 33	☐ 41	☐ 51	☐ 63	☐ 78
T	M3 x 7	M4 x 9	M5 x 10	M6 x 12	M8 x 12	M8 x 12
☐U	☐ 30	☐ 42	☐ 52	☐ 63	☐ 78	☐ 93
W	39	53	65	79	96	113.5

Example for order :
ZGK ∅25 Gripping cylinder distance A1 (open) 400mm
with stroke 100mm

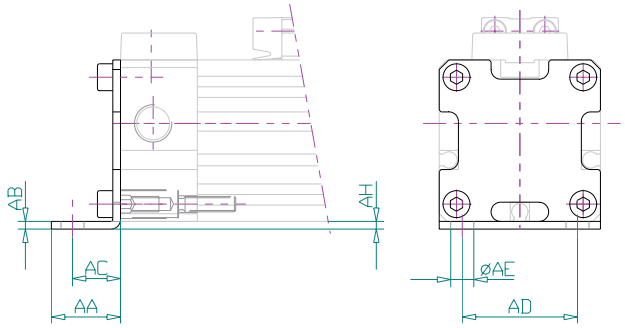
5	2	5	3	-	0	4	0	0	-	0	1	0	0



PART LIST

Pos.	Description	Materials
1	Tube	Aluminium anodised
3	Sealing strip	PA
4	Cover strip	Stainless steel
5	Yoke (2 pieces)	Aluminium anodised/POM
6	Endcap	Aluminium anodised
7	Special screw	Zinc-plated steel
8	Head wiper	POM
9	Wiper	
10	Endcap (internal)	Aluminium anodised
11 + 12	Connection	
13	Strip cover	POM
14	Cushioning pin	Stainless steel
17	Piston seal (1 pair)	PU
18	Cushion ring	NBR
19	O-ring	
20	Cylinder head screw	Zinc-plated steel

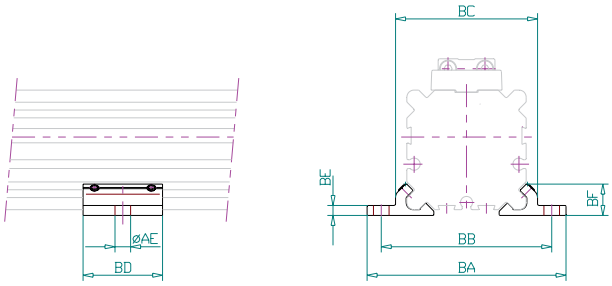
MOUNTING BRACKETS FB

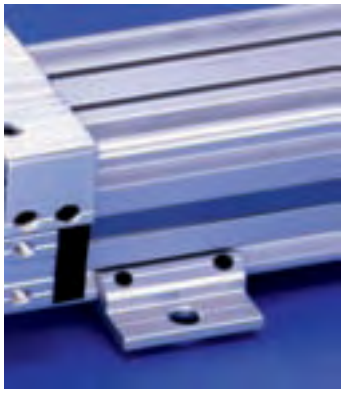


The order No. given includes 2 mounting brackets and 8 screws.

	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
AA	15	18	20	30	28	30
AB	2	2	2.5	3	3	3
AC	10	12.5	13.5	17.5	20	21
AD	20	30	40	50	60	75
AE	Ø 6	Ø 6	Ø 7	Ø 9	Ø 9	Ø 11
AH	2	2	3	3.5	3	4.5
Order No.	1182-0001	1252-0001	1322-0001	1402-0001	1502-0001	1632-0001

MIDDLE SUPPORT MB

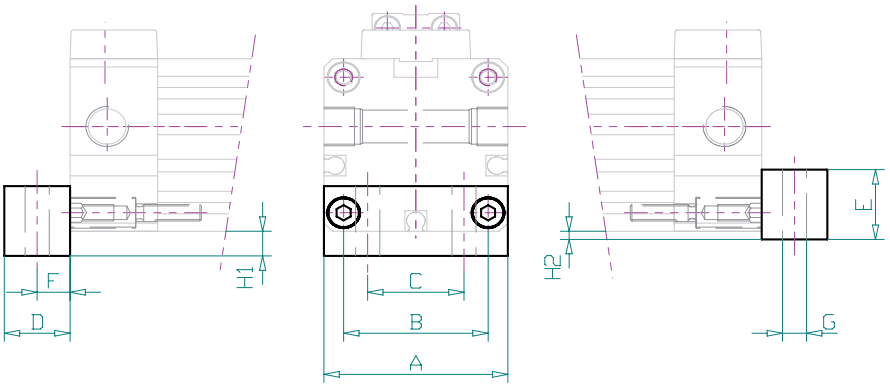




The order No. given includes 2 middle supports.

	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
AE	Ø 6	Ø 6	Ø 7	Ø 9	Ø 9	Ø 11
AH	2	2	3	3	3	4.5
BA	56	70	85	105	122	144
BB	46	60	73	90	106	125
BC	36.5	50	61.5	75	91	107
BD	23	28	33	38	43	48
BE	2.5	3.5	4	4.5	5	6
BF	8.25	11	13.8	16	19	22
Order No.	1183-0001	1253-0001	1323-0001	1403-0001	1503-0001	1633-0001

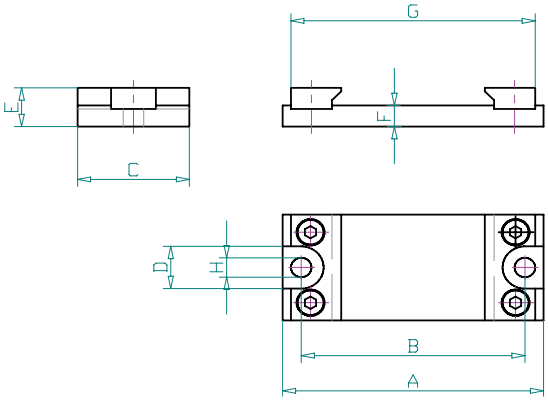
MOUNTING BLOCK FB

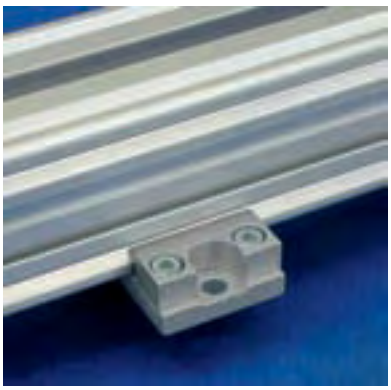


	Ø18	Ø25	Ø32	Ø40	Ø50	Ø63
A	30	42	52	63	78	93
B	23.3	33	41	51	63	78
C	14	22	23.5	30	39	52
D	10	15	15	15	16	20
E	14.5	17	20	23	26	27.5
F	5	7.5	7.5	7.5	8	10
G	Ø 4.5	Ø 5.5	Ø 7	Ø 9	Ø 9	Ø 11
H1	6	6	6	8	8	8
H2	2	2	3	3	3	4.5
Bestell Nr.	M3x14	M4x20	M5x20	M6x20	M8x20	M8x20
Order No.	1182-0005	1252-0005	1322-0005	1402-0005	1502-0005	1632-0005

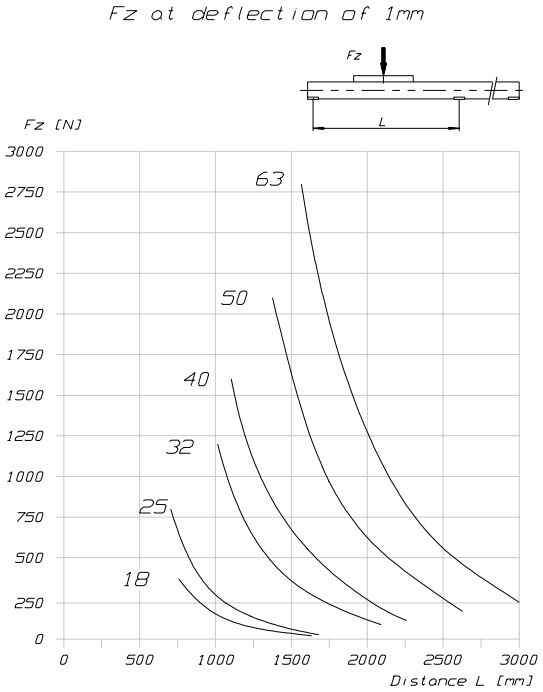
The order No. given includes 2 mounting blocks and 4 screws.

MIDDLE SUPPORT MB





	Ø18	Ø25	Ø32	Ø40	Ø50	Ø63
A	56	70	85	105	122	144
B	46	60	73	90.5	105	125
C	30	30	40	40	40	50
D	12	12	12.5	16	16	19
E	11	13	15	18	20.5	21.5
F	6	6	6	8	8	8
G	50.6	65.5	77.5	90.5	107.5	122.5
H	Ø5.5	Ø5.5	Ø6.6	Ø9	Ø9	Ø11
Bestell Nr.	1183-0002	1253-0002	1323-0002	1403-0002	1503-0002	1633-0002
Order No.						



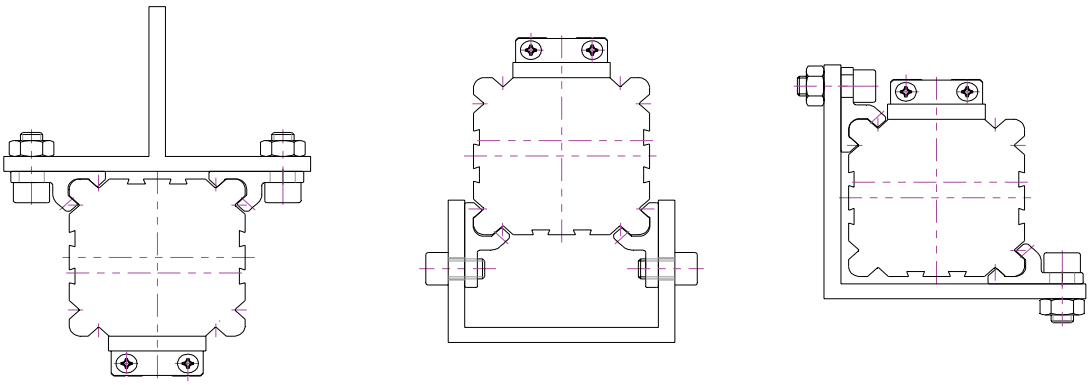
MB MIDDLE SUPPORT

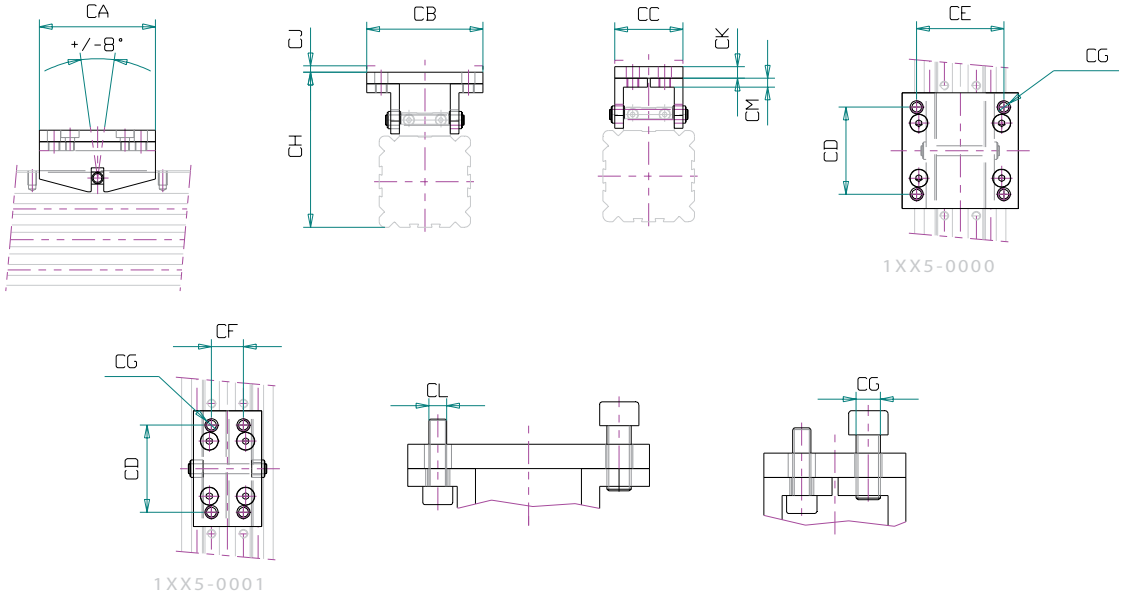
When using very long cylinders or applying heavy loads, the tube deflection is to be taken into consideration. One or more middle supports are to be used according to the admissible deflection.

Example :
A cylinder ∅25 should deflect by a maximum of 0.5mm when applying a force FZ of 500N. According to the diagram the cylinder can be 750mm long. Longer cylinders must have a middle support.

Other possibilities:
In case very long cylinders are installed without supports, an additional profile can be used as a support.

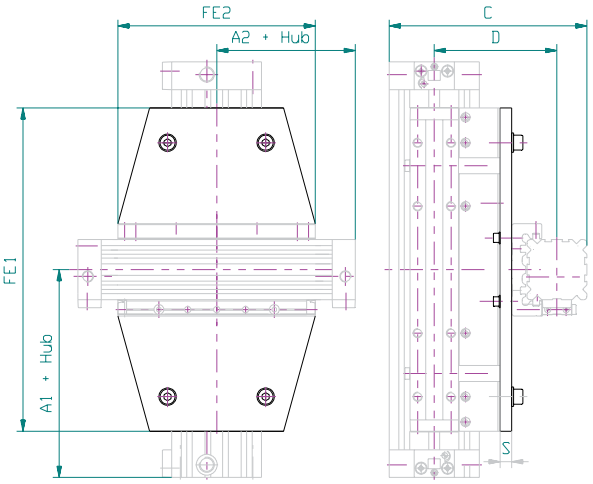
Examples: all versions with middle support and standard profiles.





	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
CA	50	60	70	80	90	100
CB	41.5	50	60	80	95	120
CC	25.5	30	37	47	56	73
CD	30	40	50	60	70	80
CE	34	38	48	60	70	90
CF	9	14	16	22	30	40
CG	M5	M5	M6	M8	M8	M10
CH	54	70	86	107	123	145.5
CJ	2.5	3	3.5	4.5	4.5	5
CK	4	4	6	8	8	8
CM	4	4	6	8	8	8
CL	M4	M4	M5	M6	M6	M8
Order No.	1185-0000	1255-0000	1325-0000	1405-0000	1505-0000	1635-0000
	1185-0001	1255-0001	1325-0001	1405-0001	1505-0001	1635-0001

The swinging bridge will be used where additional guiding is mounted in connection with a rodless cylinder. The swinging bridge transfers the action power to the guiding element without any restraint.

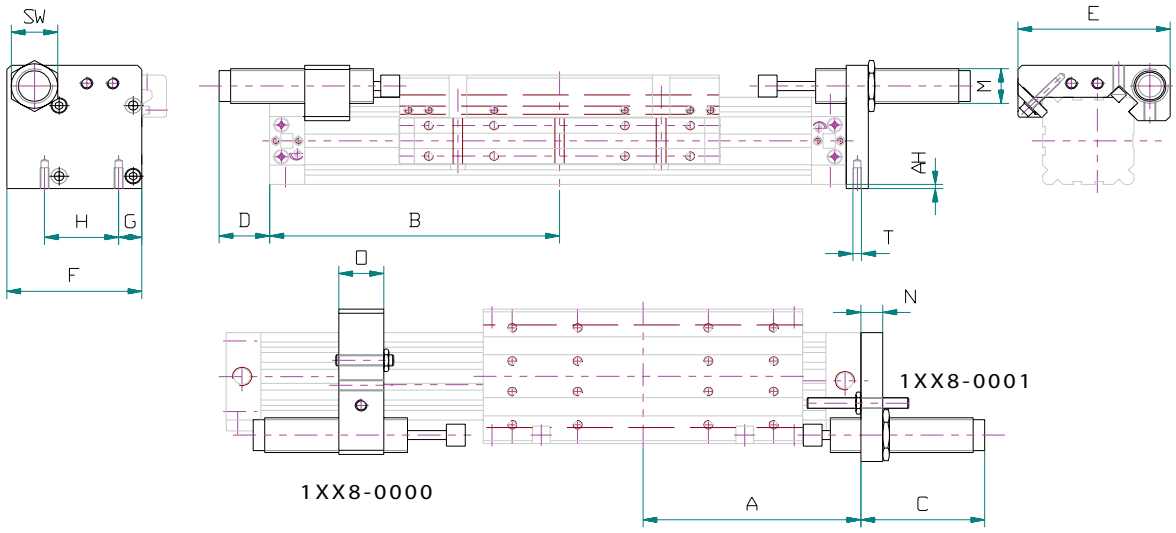


Combination	Order No.	A1	A2	C	D	FE1	FE2	S
18 : 18	1186-0000	80	80	84	54	103	103	6
25 : 25	1256-0000	100	100	114	72	131	131	8
32 : 32	1326-0000	120	120	140	88	171	171	10
40 : 40	1406-0000	150	150	168	105	220	220	10
50 : 50	1506-0000	180	180	204	126	280	280	12
63 : 63	1636-0000	215	215	239	146	333	333	12

Combination	Order No.	A1	A2	C	D	FE1	FE2	S
25 : 18	1256-0001	100	80	100	64	131	103	8
32 : 25	1326-0001	120	100	128	81	171	131	10
40 : 32	1406-0001	150	120	154	96.5	220	171	10
50 : 40	1506-0001	180	150	187	116.5	280	220	12
63 : 50	1506-0001	215	180	221.5	136	333	280	12

Combination	Order No.	A1	A2	C	D	FE1	FE2	S
32 : 18	1326-0002	120	80	112	71	171	103	8
40 : 25	1406-0002	150	100	142	89.5	220	131	10
50 : 32	1506-0002	180	120	171	106	280	171	10
63 : 40	1636-0002	215	150	204.5	126.5	333	220	12

The cross support connects two guiding cylinders to a two-axis-system.
Guiding cylinders have to be ordered separately.



	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
A ZF/ZFK	80 / 57.5	100 / 67.5	120 / 77.5	150 / 95	180 / 105	215 / 125
AH	2	2	3	3	3	4.5
B ZF/ZFK	113/ 90.5	117.5/ 85	135.5 / 90	165 / 110	195 / 140	250 / 160
C	32	37	70	65	80	80
D	max.25	max. 40	max. 30	max. 50	max. 65	65
E	57	72	84	105	126	140
F	43.5	57	70	93	102	118.5
G	8	12.5	14.5	16	22.5	20
H	23.5	33	41	51	63	78
M	M10x1	M14 x 1.5		M25 x 1.5		
N	8	10	12	15	15	15
O	15	20	20	30	30	40
SW	13	17		32		
T	M3 x 10	M4 x 10	M5 x 12	M6 x 15	M8 x 20	M8 x 20

For Formulas regarding shock absorbers please refer to catalogue WEFORMA

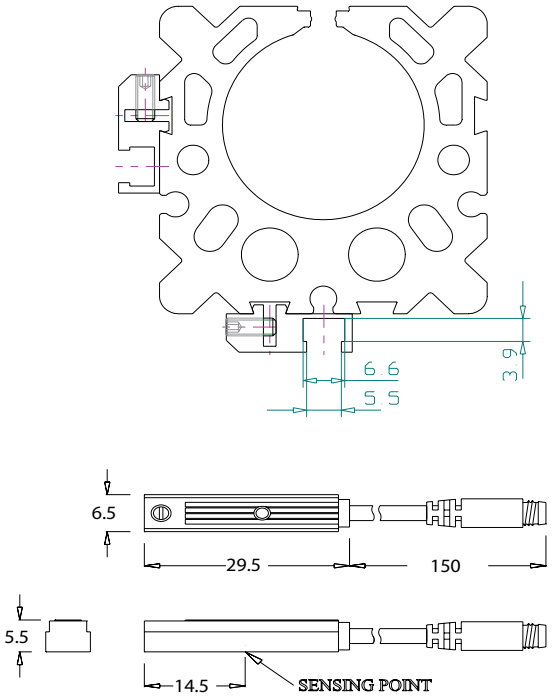
Order sample:
AS25 Stop adjustment shiftable for ZF25 or ZFK25 (without shock absorbers)
Order number:

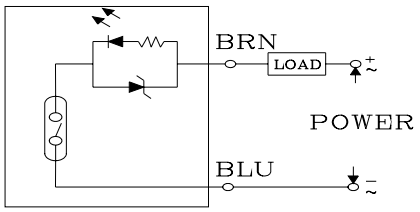
1	2	5	8	-	0	0	0	0

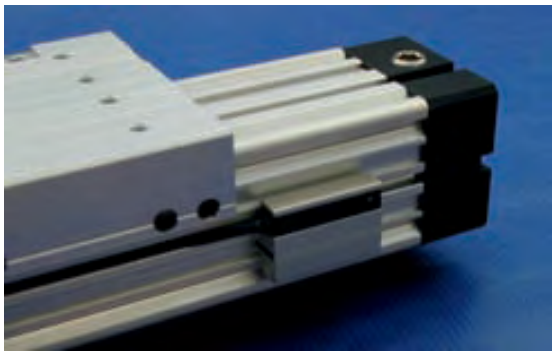
AS25 Stop adjustment fix for ZF25 or ZFK25 (without shock absorbers)
Order number:

1	2	5	8	-	0	0	0	1

Hydraulic shock absorber
M8x1 / M10x1 / M12x1 / M14x1/ M14x1.5 / M20x1.5 / M25X1.5
Please do contact us for further information



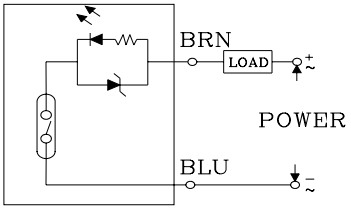


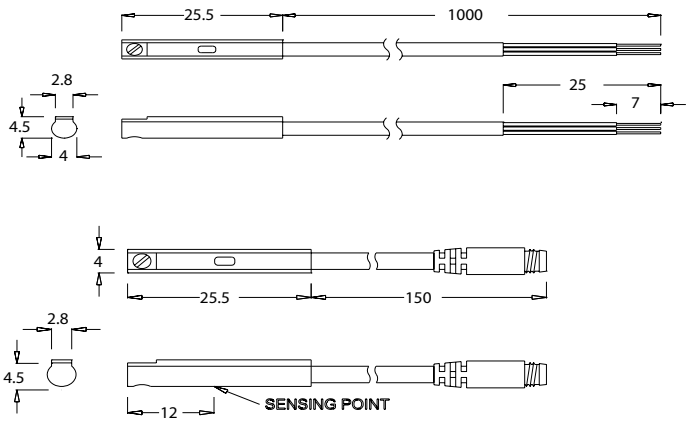


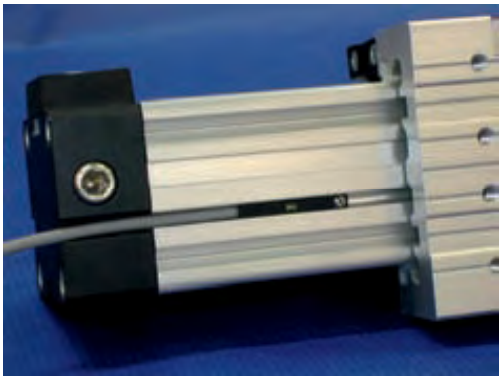
TECHNICAL INFORMATION

The Reed-switch will be operated by the magnetic field of the permanent magnets inside the yoke. The magnetic piston will be built in as standard. The end positions and additional intermediate positions of the yoke can be read out.

	Reed switch cable 2m	Reed switch connector M8x1	Clamp
	0000-8076	0000-8067	0000-8060
Form of Contact	Normally open contact		
Switching Voltage	5–120VDC/AC		
Switching Current	100 mA max.		
Switching Rating	10W		
Voltage Drop	2.5V max.		
Protection Class	IP67 (NEMA 6)		
Operating Temperature	-10°C to +60°C		
Color of LED	Red		
Cable Length	2m (PVC)	0.15m (PVC) with connector M8	



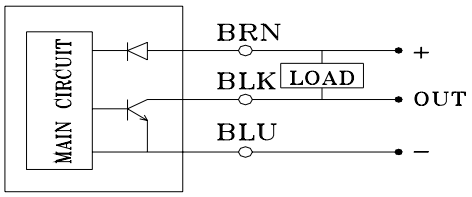


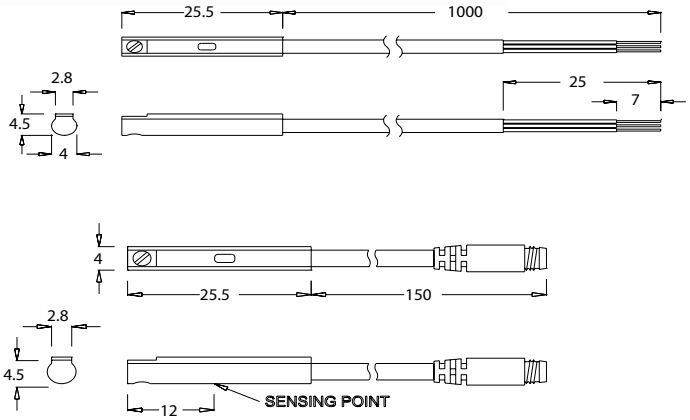


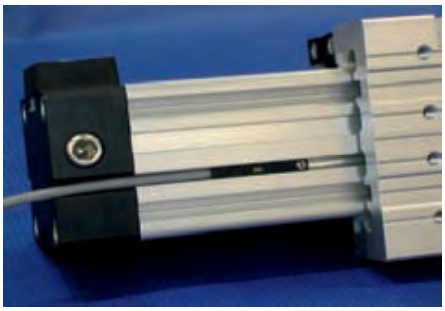
TECHNICAL INFORMATION

The Reed-switch will be operated by the magnetic field of the permanent magnets built inside the yoke. The magnetic piston will be built in as standard. The end positions and additional intermediate positions of the yoke can be read out.

	Reed switch cable 1m	Reed switch with connector
	0000-8100	0000-8120
Form of Contact	Normally open contact	
Switching Voltage	5–120VDC/AC	
Switching Current	50 mA max.	
Switching Rating	6W	
Voltage Drop	2.5V max.	
Protection Class	IP67 (NEMA 6)	
Operating Temperature	-10°C to +60°C	
Color of LED	Red	
Cable Length	1m (PVC)	0.15m (PVC) with connector M8





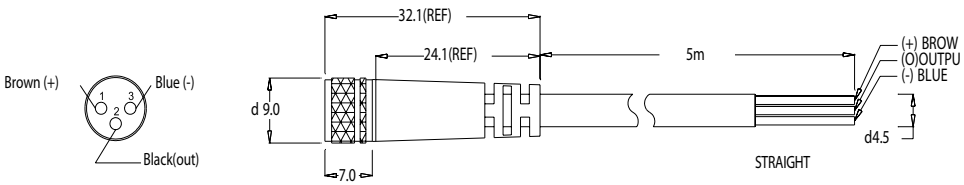


TECHNICAL INFORMATION

The Reed-switch will be operated by the magnetic field of the permanent magnets inside the yoke.
The magnetic piston will be built in as standard.

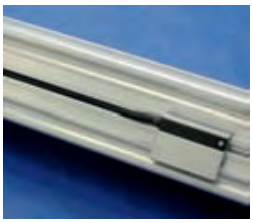
The end positions and additional intermediate positions of the yoke can be read out.

	Reed switch cable 2m	Magnetic switch connector M8x1
	0000-8192	0000-8193
Form of Contact	Normally open contact	
Switching Voltage	5–28VDC/AC	
Switching Current	200 mA max.	
Switching Rating	6W	
Voltage Drop	0.5V max.	
Protection Class	IP67 (NEMA 6)	
Operating Temperature	-10°C to +60°C	
Color of LED	Green	
Cable Length	1m (PVC)	0.15m (PVC) with connector M8x1



	Female Connector M8x1 - 5m
	0000-8194
Cable Type	Normally open contact
Electrical Rating	120VDC/AC 3Amp.max
Protection Class	IP67 (NEMA 6)
Operating Temperature	-10°C to +60°C
Cable Length	5m (PVC)

INSTALLATION EXAMPLES



Additional cable duct for T-type sensors

Attention

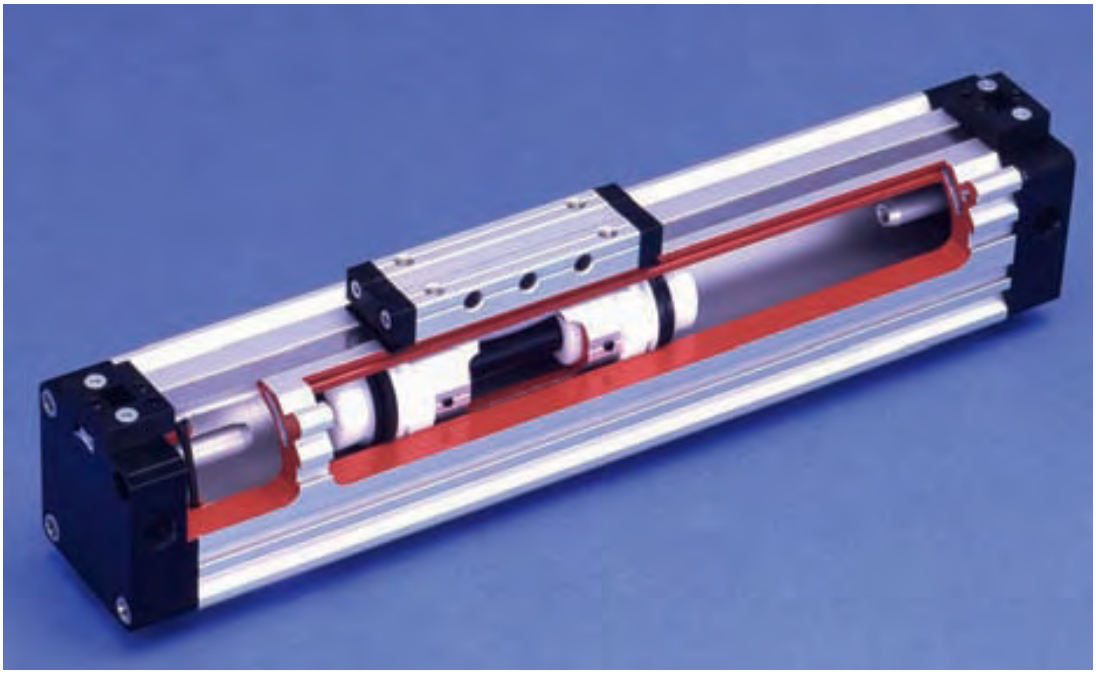
For the installation of the C-Type sensor, there must be a passage for mounting the sensor and through-hole for the cable.

Through-hole of the cable at the mounting brackets FB

The Assembly kit contains all parts to mount a cylinder with cut goods (casing pipes, sealing and cover strip).

The different additional kits contain the parts to mount external guiding systems or material needed for special cylinder

For the mounting of the cylinder in diameter 18-63 mm abroad, we do offer kit and additional guiding kit as well as cut goods (casing pipes, sealing and cover strip). We do also support our partners with the right tools, clear instructions and free assembly training in our factory.



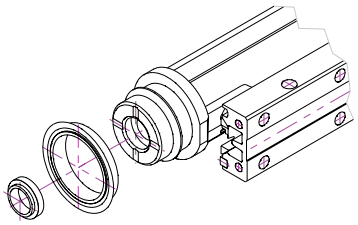
	Ø 18	Ø 25	Ø 32	Ø 40	Ø 50	Ø 63
Order No.						
ZS	1189-0000-	1259-0000-	1329-0000-	1409-0000-	1509-0000-	1639-0000-
ZK	2189-0000-	2259-0000-	2329-0000-	2409-0000-	2509-0000-	2639-0000-
ZF	3189-0000-	3259-0000-	3329-0000-	3409-0000-	3509-0000-	3639-0000-
ZFF	3189-0001-	3259-0001-	3329-0001-	3409-0001-	3509-0001-	3639-0001-
ZFK	3189-0002-	3259-0002-	3329-0002-	3409-0002-	3509-0002-	3639-0002-
ZP	4189-0000-	4259-0000-	4329-0000-	4409-0000-	4509-0000-	4639-0000-
ZGS/ZDS	5189-0000-	5259-0000-	5329-0000-	5409-0000-	5509-0000-	5639-0000-
ZGK/ZDK	5189-0001-	5259-0001-	5329-0001-	5409-0001-	5509-0001-	5639-0001-
ZGF/ZDF	5189-0002-	5259-0002-	5329-0002-	5409-0002-	5509-0002-	5639-0002-
ZTS	6189-0000-	6259-0000-	6329-0000-	6409-0000-	6509-0000-	6639-0000-
ZTK	6189-0001-	6259-0001-	6329-0001-	6409-0001-	6509-0001-	6639-0001-
ZTF	6189-0002-	6259-0002-	6329-0002-	6409-0002-	6509-0002-	6639-0002-

Example for order :
Set of wear parts for
ZS ∅25 Standard cylinder with stroke 100mm

1	2	5	9	-	0	0	0	0	-	0	1	0	0

Lubricate piston seals and cushioning ring slightly.

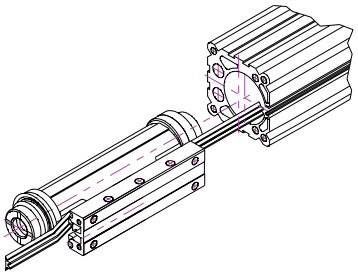
Mount piston seals on piston head. Put cushioning ring into the slot. Take care that the smaller Ø of the ring is outside.



Lubricate sealing strip slightly.

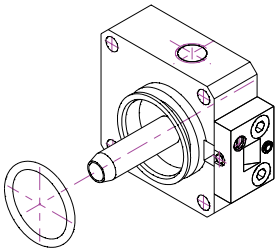
Bend up one end and insert into yoke.

Insert long end of sealing strip into the tube profile and put the yoke into the tube profile.



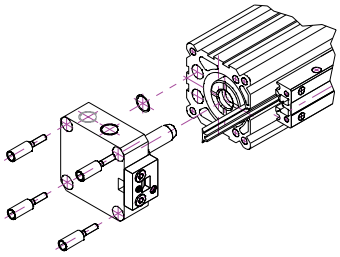
End cap is preassembled with strip cover and cushioning pin.

Lubricate o-ring and mount it.



Push yoke to the end and insert end cap.

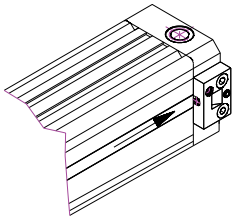
On one side port insert flat sealing and tighten the special screws.



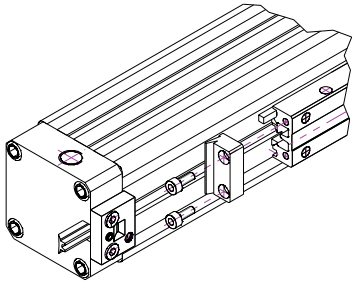
Insert cover strip and clamp it with grub screw.

Pull through yoke.

Measure exact length and clamp it on other side.



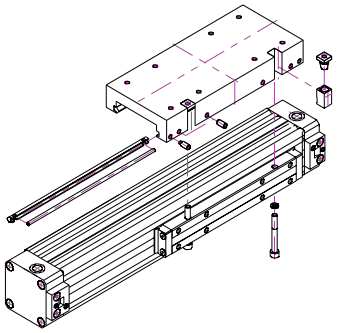
Pull the sealing strip tight (approx. 0.5 – 1% of the length), stretch it and fix with grub screw with pin Cut off overstanding sealing strip Insert wiper, screw on head wiper and tighten cover strip with it.

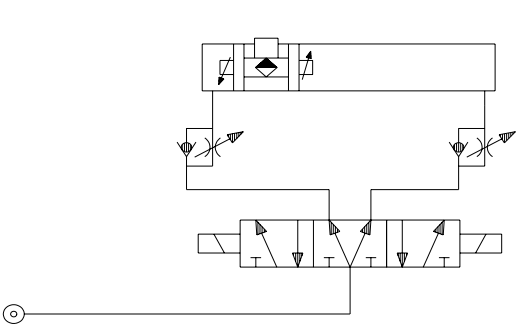


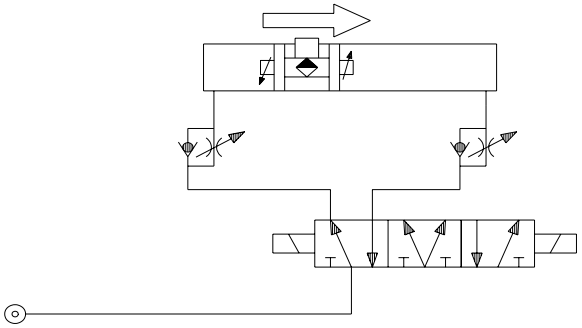
Lock grub screw with adhesive (Loctite)

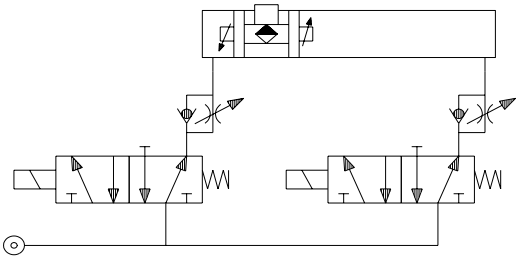
Slide on guide carriage and adjust guiding bar with grub screws lightly Beat guide carriage lightly with a rubber hammer from the side.

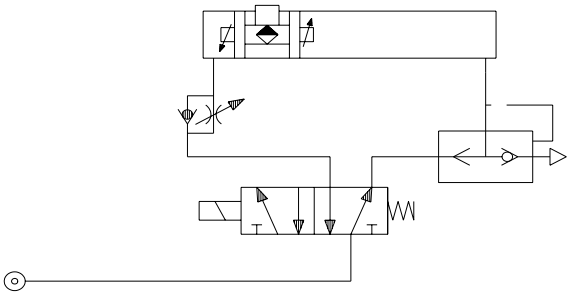
Check clearance, re-adjust if necessary.

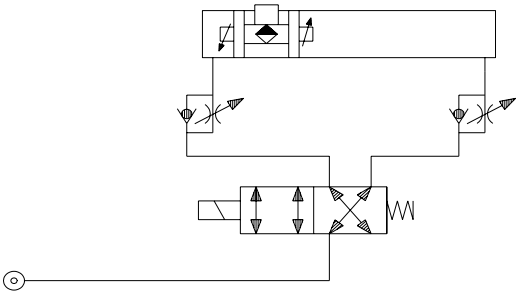












- Strike cylinder always with pressure on both sides, bleed valve in movement direction.
- Speed regulation by exhaust restrictor (one-way flow restrictor).
- A control of the cylinder without flow restriction causes a high acceleration. The resulting kinetic energy can destroy the cylinder and the associated equipment.
- Slow run; at 6 bar reduced by flow restrictor up to 0.05 m/sec.
- Operation speed up to 2 m/sec depending on loads.

Notes

- These data are to be used as product information and not as granted properties by law.
- Any claim for damages against us is to be ruled out, without considering the cause in law, unless intention or gross negligence could be applied to us.
- All rights reserved for technical changes, omissions and fallacy.

The LANAMATIC cylinder is safe and made according to the latest technical research.

There could be a danger if:

- the cylinder will be used, mounted and maintained either improperly or by unqualified staff.
- the cylinder will not be used according to the regulations.
- the accident prevention regulations (UVV, VDE), the safety and installation regulations will not be respected.

- Working methods, restricting the function and operation safety of the LANAMATIC cylinder, have to be omitted.
- The LANAMATIC cylinder is exclusively to be used in the scope of its technical data; any other use beyond this is out of the regulations.
- The manufacturer is not liable for damages caused by such an improper use.
- In case of maintenance, extension or rebuilding it is advisable to remove the LANAMATIC cylinder from the working area and to do the work out of the danger zone.
- When mounting, connecting, adjusting, bringing into service and testing the units it should be guaranteed that no mechanic or another person could operate the cylinders by mistake.
- Additional bores, thread or attachments, being not offered as accessories, can only be applied after consulting the LANAMATIC AG.
- Should a cylinder be operated in the neighbourhood of abrasive dust or aggressive vapour, the prior approval of LANAMATIC AG is necessary.
- Otherwise, the safety and accident prevention regulations of the operation place are valid.