



Piston Rod Locks
Compact Cylinders, Short Stroke Cylinders
Guided Cylinders, Cylinder Guides
Grippers, Clamps, Slides and Custom made Cylinders

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ROD LOCKS - TYPES: FEL / FEDL / FEDK

FOR PNEUMATIC CYLINDERS AND CUSTOM APPLICATIONS

PASSIVE or ACTIVE. WITH or WITHOUT SENSING.

- CLAMP RODS SECURELY IN ANY POSITION
- FAST AND RELIABLE
- PREVENT UNCONTROLLED MOVEMENT
- PROMOTE SAFETY AT THE WORKPLACE

Variation or loss of air pressure can lead to unwanted movement of vertically mounted pneumatic cylinders under load. Fitting piston rod locks can prevent accidents and subsequent damage and loss.

Cartridges can also be used with custom-made adapters to clamp round bar material such as guide or support rods.

Technical Data:

- Clamping forces, from 200 to 12,000 N
- Square top cartridges have a magnetic piston for sensing
- Round cartridges without magnetic piston
- Cartridges for rod diameters from 6 to 40 mm
- Locking-Sets comprising cartridge and adapter for ISO 6431/6432 cylinders from 12 to 200 mm bore
- Cylinders require an extended piston rod
- Cartridge and adapter in anodised aluminium
- Clamps in high quality brass
- Maintenance free
- Medium: Filtered, lubricated or dry compressed air, max temp. 80°C
- Operating pressure: 4 to 10 bar
- Ambient temperature: -20°C to +80°C
- Passive locking: Air to release the lock
- Active locking: Air to clamp the lock



Important Notes:

- **Not to be used as a critical safety device**
- For static operation only. Not to be used as a brake or positioning device
- **Single cartridges available for custom-made adapters and for spares and replacements**
- For piston rod extensions, see tables with the adapter dimensions
- **Details and availability of active types on request**
- Availability of large units to cylinder bores 160 & 200 mm on request
- **Custom made cylinders and locks on request**

TYPES FEDL & FEDK WITH RED CATRIDGES

➤ Details on pages 4 to 7

Ordering Code for types FEL:

F E L - . . . - . . .

Function	Version:	Sensing:	Cylinder bore in mm:		
P: Passive	S: Locking – Set	O: No sensing	012	032	080
A: Active	(Adapter with Cartridge)	A: With sensing	016	040	100
	P: Cartridge only		020	050	125
			025	063	160
					200

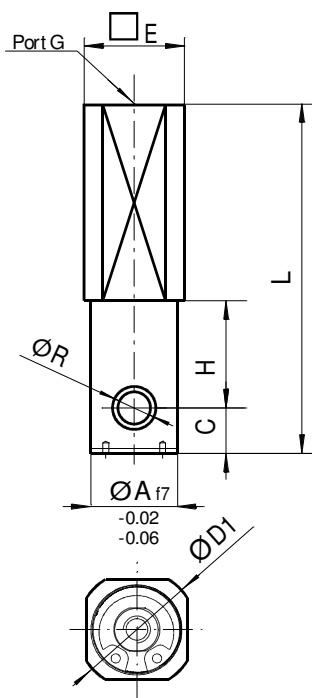
ROD LOCKS – TYPE FEL

Square Top Passive Cartridge (Black Anodised) with Magnetic Piston for Sensing

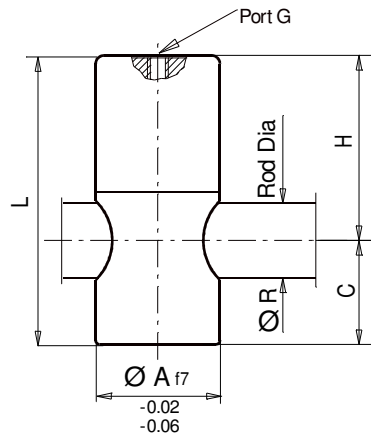
Part numbers and dimensions for Cartridges FEL-PPA-xxx (Active Cartridges on request)

PART NO	FORCE	R	A (f7)	D1	E	C	H	L	G
FEL-PPA-012	200 N	6	16	22	18.5	9.5	10.5	58	M5
FEL-PPA-016	200 N	6	16	22	18.5	9.5	10.5	58	M5
FEL-PPA-020	350 N	8	20	25	20.5	11.5	17	64.5	M5
FEL-PPA-025	400 N	10	20	25	20.5	11.5	17	64.5	M5
FEL-PPA-032	600 N	12	20	27	22.5	17	25.5	82	M5
FEL-PPA-040	1,000 N	16	24	30	27.5	19.5	29.5	89	G1/8"
FEL-PPA-050	1,500 N	20	30	36	32.5	22.5	35.5	106	G1/8"
FEL-PPA-063	2,200 N	20	38	44	41	25	43	116.5	G1/8"
FEL-PPA-080	3,000 N	25	40	51.5	49	30	53	148	G1/8"
FEL-PPA-100	5,000 N	25	48	55	53	30	65.5	154.5	G1/8"
FEL-PPA-125	7,000 N	32	65	67.5	65	34	75.5	178.5	G1/8"
FEL-PPA-160	12,000 N	40	100	100	97	50	-	258.5	G1/4"
FEL-PPA-200	12,000 N	40	100	100	97	50	-	258.5	G1/4"

CARTRIDGE FEL-PPA

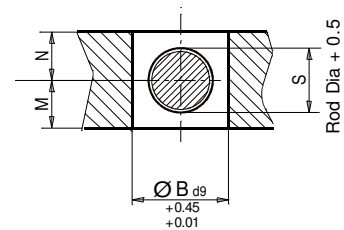


CARTRIDGE FEL-PPO



ADAPTER BORE

For custom made mounting brackets



S	B(d9)	M min	N min
6 +0.5	16	10	10
6 +0.5	16	10	10
8 +0.5	20	12	12
10 +0.5	20	12	12
12 +0.5	20	17.5	17.5
16 +0.5	24	20	20
20 +0.5	30	23	23
20 +0.5	38	25.5	25.5
25 +0.5	48	30.5	30.5
25 +0.5	48	30.5	30.5
32 +0.5	65	34.5	34.5
40 +0.5	100	50.5	50.5
40 +0.5	100	50.5	50.5

ROD LOCKS – TYPE FEL

Round Passive Cartridge (Black Anodised) without Magnetic Piston

Part numbers and dimensions for Cartridges FEL-PPO-xxx (Active Cartridges on request)

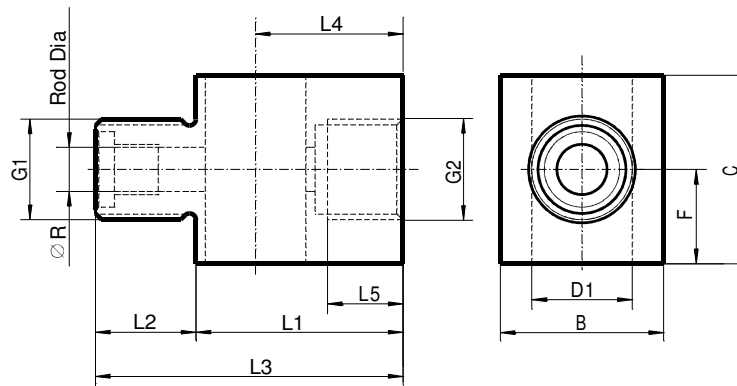
PART NO	FORCE	R	A (f7)	C	H	L	G
FEL-PPO-012	200 N	6	16	9.5	43.5	53	M5
FEL-PPO-016	200 N	6	16	9.5	43.5	53	M5
FEL-PPO-020	350 N	8	20	11.5	45.5	57	M5
FEL-PPO-025	400 N	10	20	11.5	45.5	57	M5
FEL-PPO-032	600 N	12	20	17	45.5	62.5	M5
FEL-PPO-040	1,000 N	16	24	19.5	61.5	81	G1/8"
FEL-PPO-050	1,500 N	20	30	22.5	75.5	98	G1/8"
FEL-PPO-063	2,200 N	20	38	25	86	111	G1/8"
FEL-PPO-080	5,000 N	25	48	30	119	149	G1/8"
FEL-PPO-100	5,000 N	25	48	30	119	149	G1/8"
FEL-PPO-125	7,500 N	32	65	34	140	174	G1/8"
FEL-PPO-160	12,000 N	40	100	50	208.5	258.5	G1/4"
FEL-PPO-200	12,000 N	40	100	50	208.5	258.5	G1/4"

Please note exception: FEL-PPO-032 dimensions are identical to FEL-PPA-032

For round type use FEDL-PPO-032 instead.

**ROD LOCKS – TYPE FEL, Adapters for Cartridges Type FEL-PPA & FEL-PPO
Locking Unit, Adapter with Cartridge, Part No: FEL-PSA-xxx or FEL-PSO-xxx**

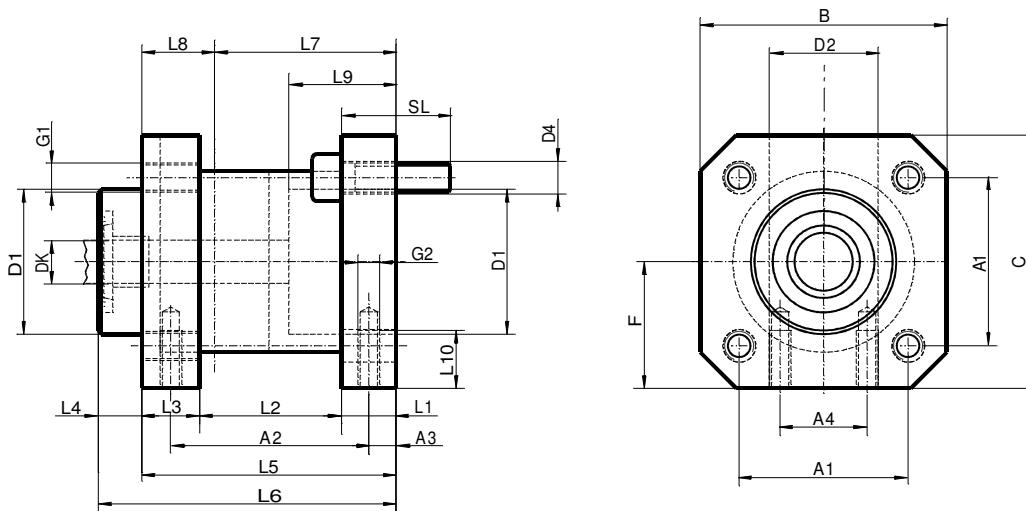
Dimensions for Adapters to Cylinders, ISO 6431. Ø 12 – 25 mm



Ø CYL	Ø ROD	B	C	D1	F	G1	G2	L1	L2	L3	L4	L5	P'Rod Ext
12	6	20	20	16	10	M16X1.5	M16X1.5	30	12	42	21	13	35
16	6	20	20	16	10	M16X1.5	M16X1.5	30	12	42	21	13	35
20	8	27	33	20	16.5	M22X1.5	M22X1.5	35	23	58	24	14	50
25	10	27	33	20	16.5	M22X1.5	M22X1.5	35	23	58	24	14	50

**ROD LOCKS – TYPE FEL, Adapters for Cartridges Type FEL-PPA & FEL-PPO
Locking Unit, Adapter with Cartridge, Part No: FEL-PSA-xxx or FEL-PSO-xxx**

Dimensions for Adapters to Cylinders, ISO 6431. Ø 32 – 200 mm



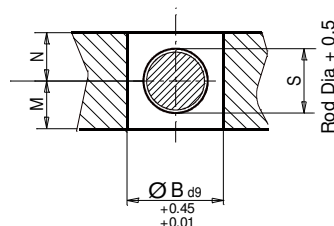
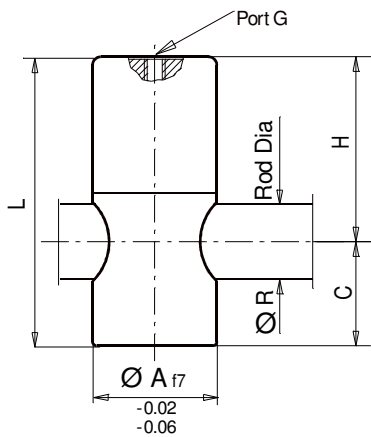
Ø CYL	Ø ROD	A1	A2	A3	A4	B	C	D1	D2	D4	F	G1	G2
32	12	32.5	40	4.2	16	48	50	30	20	6.6	25	M6	M5
40	16	38	46	4.5	21	56	58	35	24	6.6	29	M6	M5
50	20	46.5	54	11.5	24	68	70	40	30	8.5	35	M8	M6
63	20	56.5	55	7.5	32	82	85	45	38	8.5	42.5	M8	M8
80	25	72	70	10	44	100	105	45	40	11	52.5	M10	M8
100	25	89	70	10	60	120	130	55	48	11	65	M10	M8
125	32	110	95	11	75	140	150	60	65	13	75	M12	M10
160	40	140	137	12.5	98	180	180	65	100	17	90	M16	M16
200	40	175	147	15	120	225	225	75	100	17	112.5	M16	M20

Ø CYL	Ø ROD	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	SL	P'Rod Ext.
32	12	8	28	12	10	48	58	32	16	20.5	8	20	43
40	16	10	33	12	10	55	65	33.5	19.5	22.5	10	25	46
50	20	15	39	16	12	70	82	49	21	29.5	12	30	60
63	20	15	40	15	12	70	82	49	21	29.5	12	30	60
80	25	16	58	16	20	90	110	62	28	35.5	16	30	80
100	25	16	58	18	23	92	115	65	27	38.5	16	30	82
125	32	25	70	27	32	122	154	85	37	51	20	45	110
160	40	25	103	37	30	165	195	111	54	61	24	55	138
200	40	30	117	30	30	177	207	117	59	68	30	65	138

ROD LOCKS – TYPE FEDL
Long Passive Cartridge (Red Anodised), Sensing not available

Part numbers and dimensions for Cartridges FEDL-PPO-xxx (Active Cartridges on request)

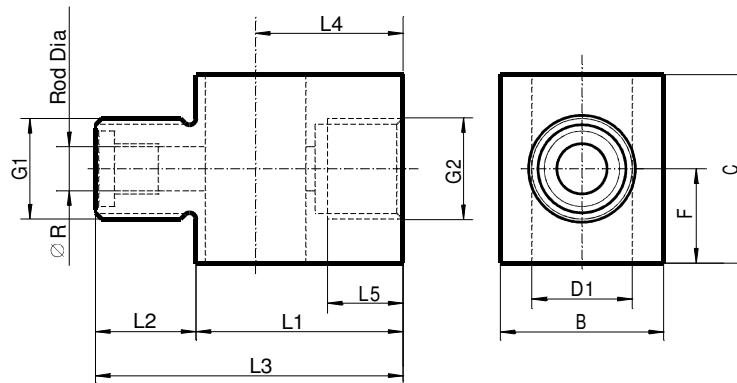
PART NO	FORCE		R	A (f7)	C	H	L	G
FEDL-PPO-012	180 N		6	16	10	25	35	M5
FEDL-PPO-016	180 N		6	16	10	25	35	M5
FEDL-PPO-020	350 N		8	20	17.5	44.5	62	M5
FEDL-PPO-025	390 N		10	20	17.5	44.5	62	M5
FEDL-PPO-032	950 N		12	20	17.5	44.5	62	M5
FEDL-PPO-040	1,000 N		16	24	22	61	83	G1/8"
FEDL-PPO-050	1,550 N		20	30	25	75	100	G1/8"
FEDL-PPO-063	2,500 N		20	38	30	85	115	G1/8"
FEDL-PPO-080	5,000 N		25	48	36	119	155	G1/8"
FEDL-PPO-100	5,000 N		25	48	36	119	155	G1/8"
FEDL-PPO-125	8,500 N		32	65	55	140	195	G1/8"



S	B(d9)	M min	N min
6 +0.5	16	11	10
6 +0.5	16	11	10
8 +0.5	20	18.5	18
10 +0.5	20	18.5	18
12 +0.5	20	18.5	18
16 +0.5	24	23	22
20 +0.5	30	26	25
20 +0.5	38	31	30
25 +0.5	48	37	36
25 +0.5	48	37	36
32 +0.5	65	56	55

ROD LOCKS – TYPE FEDL, Adapters for Cartridges Type FEDL-PPO-xxx
Locking Unit, Adapter with Cartridge, Part No: FEDL-PSO-xxx

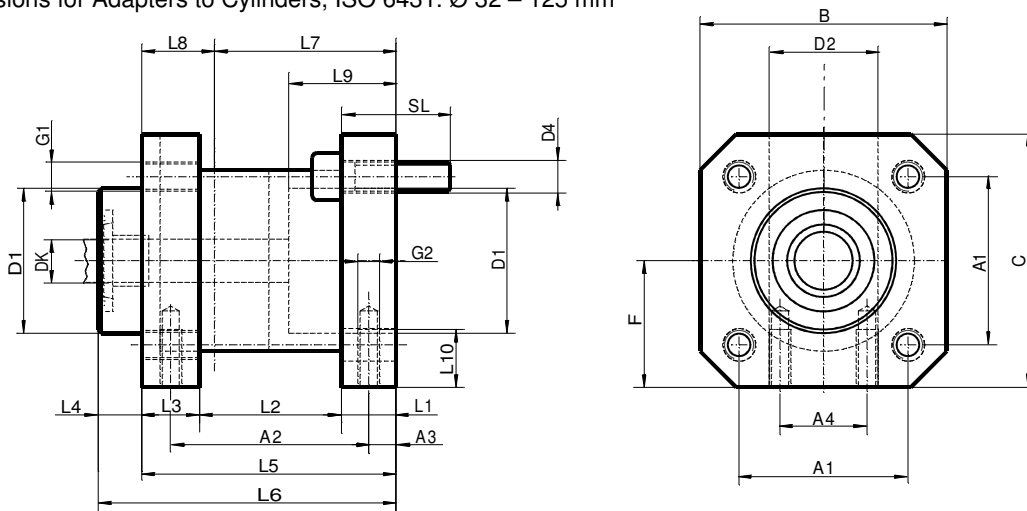
Dimensions for Adapters to Cylinders, ISO 6431. Ø 12 – 25 mm



Ø CYL	Ø ROD	B	C	D1	F	G1	G2	L1	L2	L3	L4	L5	P'Rod Ext
12	6	20	20	16	10	M16X1.5	M16X1.5	30	12	42	21	13	35
16	6	20	20	16	10	M16X1.5	M16X1.5	30	12	42	21	13	35
20	8	27	33	20	16.5	M22X1.5	M22X1.5	35	23	58	24	14	50
25	10	27	33	20	16.5	M22X1.5	M22X1.5	35	23	58	24	14	50

**ROD LOCKS – TYPE FEDL, Adapters for Cartridges Type FEDL-PPO-xxx
Locking Unit, Adapter with Cartridge, Part No: FEDL-PSO-xxx**

Dimensions for Adapters to Cylinders, ISO 6431. Ø 32 – 125 mm



Ø CYL	Ø ROD	A1	A2	A3	A4	B	C	D1	D2	D4	F	G1	G2
32	12	32.5	N/A	N/A	N/A	45	45	30	20	6.6	22.5	M6	N/A
40	16	38	N/A	N/A	N/A	50	50	35	24	6.6	25	M6	N/A
50	20	46.5	N/A	N/A	N/A	60	60	40	30	8.5	30	M8	N/A
63	20	56.5	N/A	N/A	N/A	70	70	45	38	8.5	35	M8	N/A
80	25	72	N/A	N/A	N/A	90	90	45	40	11	45	M10	N/A
100	25	89	N/A	N/A	N/A	105	105	55	48	11	52.5	M10	N/A
125	32	110	N/A	N/A	N/A	140	140	60	65	13	70	M12	N/A

Ø CYL	Ø ROD	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	SL	P'Rod Ext.
32	12	8	27	13	10	48	58	31.5	16.5	20.5	N/A	20	43
40	16	8	34	13	10	55	65	36	19	22.5	N/A	25	46
50	20	15	39	16	12	70	82	45.5	24.5	29.5	N/A	30	60
63	20	15	39	16	12	70	82	49.5	20.5	29.5	N/A	30	60
80	25	18	56	16	20	90	110	61	29	35	N/A	30	80
100	25	18	54	20	23	92	115	65	27	39	N/A	30	82
125	32	22	70	30	32	122	154	86.5	67.5	51	N/A	45	110

Ordering Code for types FEDL:

F E D L -

Function	Version:	Sensing:	Cylinder bore in mm:		
P: Passive A: Active	S: Locking – Set (Adapter with Cartridge) P: Cartridge only	O: No sensing	012	032	080
			016	040	100
			020	050	125
			025	063	

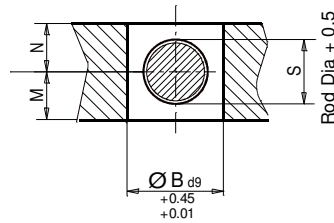
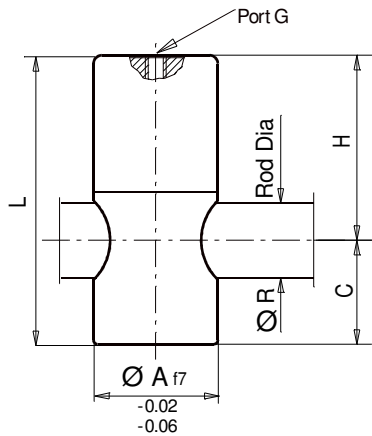
ROD LOCKS – TYPE FEDK

Compact Passive Cartridge (**Red Anodised**), Sensing not available

Applications where space is at a premium. Cartridge height virtually flush with adapter. Not interchangeable with FEL or FEDL types.

Part numbers and dimensions for Cartridges FEDK-PPO-xxx (Active Cartridges not available)

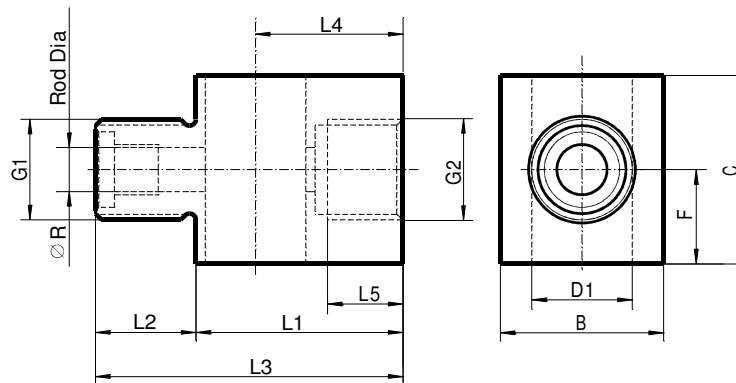
PART NO	FORCE	R	A (f7)	C	H	L	G
FEDK-PPO-012	180 N	6	20	11.5	19	30.5	M5
FEDK-PPO-016	180 N	6	20	11.5	19	30.5	M5
FEDK-PPO-020	300 N	8	20	19	21	40	M5
FEDK-PPO-025	400 N	10	20	19	21	40	M5
FEDK-PPO-032	650 N	12	25	22	22.5	47.5	M5
FEDK-PPO-040	1,100 N	16	28	25	30	55	G1/8"
FEDK-PPO-050	1,600 N	20	35	30	36	66	G1/8"
FEDK-PPO-063	2,500 N	20	38	34	40	74	G1/8"
FEDK-PPO-080	4,000 N	25	48	45	50	95	G1/8"
FEDK-PPO-100	6,300 N	25	58	52	58	110	G1/8"
FEDK-PPO-125	8,700 N	32	65	60	80	140	G1/8"



S	B(d9)	M min	N min
6 +0.5	20	12.5	5
6 +0.5	20	12.5	5
8 +0.5	20	20	7
10 +0.5	20	20	8
12 +0.5	25	23	10
16 +0.5	28	26	12
20 +0.5	35	31	15
20 +0.5	38	35	10
25 +0.5	48	46	20
25 +0.5	58	53	20
32 +0.5	65	61	30

ROD LOCKS – TYPE FEDK, Adapters for Cartridges Type FEDK-PPO-XXX Locking Unit, Adapter with Cartridge, Part No: FEDK-PSO-xxx

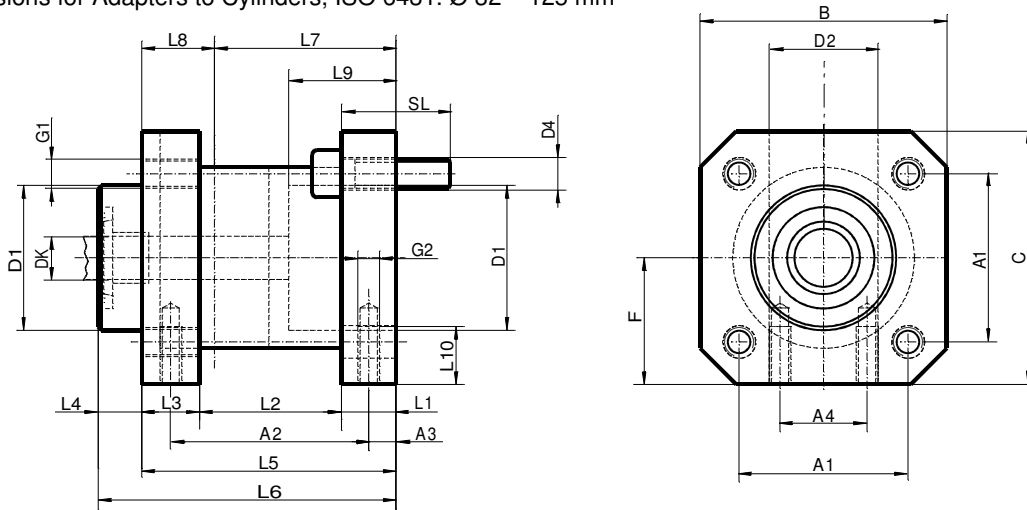
Dimensions for Adapters to Cylinders, ISO 6431. Ø 12 – 25 mm



Ø CYL	Ø ROD	B	C	D1	F	G1	G2	L1	L2	L3	L4	L5	P'Rod Ext
12	6	25	25	20	12.5	M16X1.5	M16X1.5	35	12	47	23	12	45
16	6	25	25	20	12.5	M16X1.5	M16X1.5	35	12	47	23	12	45
20	8	38	27	20	13.5	M22X1.5	M22X1.5	35	23	58	24	12	51
25	10	38	27	20	13.5	M22X1.5	M22X1.5	35	23	58	24	12	55

**ROD LOCKS – TYPE FEDK, Adapters for Cartridges Type FEDK-PPO-xxx
Locking Unit, Adapter with Cartridge, Part No: FEDK-PSO-xxx**

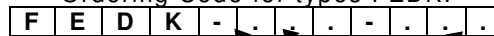
Dimensions for Adapters to Cylinders, ISO 6431. Ø 32 – 125 mm



Ø CYL	Ø ROD	A1	A2	A3	A4	B	C	D1	D2	D4	F	G1	G2
32	12	32.5	N/A	N/A	N/A	45	45	30	25	6.6	25.5	M6	N/A
40	16	38	N/A	N/A	N/A	50	50	35	28	6.6	30	M6	N/A
50	20	46.5	N/A	N/A	N/A	60	60	40	35	8.5	36	M8	N/A
63	20	56.5	N/A	N/A	N/A	70	70	45	38	8.5	40	M8	N/A
80	25	72	N/A	N/A	N/A	90	90	45	48	11	50	M10	N/A
100	25	89	N/A	N/A	N/A	105	105	55	58	11	58	M10	N/A
125	32	110	N/A	N/A	N/A	140	140	60	65	13	80	M12	N/A

Ø CYL	Ø ROD	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	SL	P'Rod Ext.
32	12	8	27	13	10	48	58	34	16.5	20.5	N/A	20	42
40	16	8	34	13	10	55	65	38	19	22.5	N/A	20	45
50	20	15	39	16	12	70	82	48	24.5	29.5	N/A	30	57
63	20	15	39	16	12	70	82	49.5	20.5	29.5	N/A	30	57
80	25	18	52	20	20	90	110	61	29	35	N/A	35	77
100	25	18	62	20	15	100	115	69	27	39	N/A	35	77
125	32	22	70	30	45	122	167	86.5	67.5	51	N/A	40	120

Ordering Code for types FEDK:



Function	Version:	Sensing:	Cylinder bore in mm:		
P: Passive	S: Locking – Set (Adapter with Cartridge) P: Cartridge only	O: No sensing	012	032	080
			016	040	100
			020	050	125
			025	063	

Contact FS Engineering (Automation Systems) Ltd for further information, application assistance, to request a quotation and a price list.

www.fs-engineering.co.uk