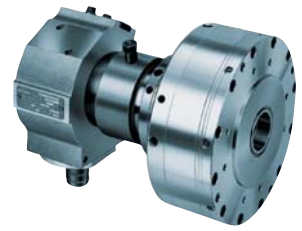


Operation guide



TYPE	EHS	SZS	LHS-L
	Cylinder with through-hole		
Feature	electrical cylinder with through-hole, drive via servo motor	hydraulic cylinder with through-hole for operating pressure 8 - 45 bar	pneumatic cylinder with through-hole for operating pressure 1,5 - 8 bar
Through-hole	37 - 67 mm	46 - 127 mm	26 - 42 mm
Stroke max.	32 mm	25 - 40 mm	20 - 32 mm
Pull force	max. 50 - 68 kN	46 - 145 kN (45 bar operating pressure)	10 - 16 kN (6 bar operating pressure)
Actuation			
Max. Speeds	6000 m ⁻¹	7000 - 3200 m ⁻¹	6500 - 4000 m ⁻¹
Installation position	horizontal, vertical	horizontal	horizontal, vertical
Feature	high energy efficiency, environmentally friendly and high controllability	short design	short design
Workpiece			
Page	6128	6132	6134



2-jaw chuck



serration 60°



pipe



flange



3-jaw chuck



serration 90°



bar



asymmetrical workpiece



tongue and groove

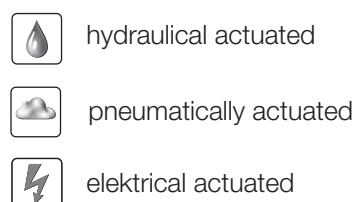
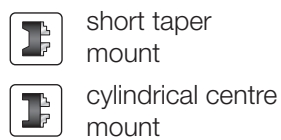
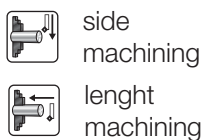


disc

Operation guide



TYPE	EVS	OVS	LVS
	Cylinder without through-hole		
Feature	electrical cylinder without through-hole, drive via servo motor	hydraulic cylinder without through-hole for operating pressure 8 - 80 bar	pneumatic cylinder without through-hole for operating pressure 2 - 10 bar
Through-hole	-	-	-
Stroke max.	32 mm	32 - 50 mm	32 - 45 mm
Pull force	max. 50 kN	30 - 166 kN (60 bar operation pressure)	3 - 57 kN (6 operating pressure)
Actuation			
Max. Speeds	6000 m ⁻¹	8000 - 4500 m ⁻¹	5000 - 3200 m ⁻¹
Installation position	horizontal, vertical	horizontal, vertical	horizontal, vertical
Feature	high energy efficiency, environmentally friendly, high controllability, prepared for media feed-through	prepared for media feed-through	media feed-through on request
Workpiece	 	 	
Page	6140	6144	6148





FOR EVERY APPLICATION

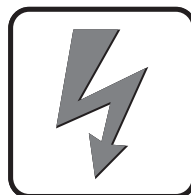
In order to be able to satisfy every application, RÖHM has hydraulically, pneumatically as well as electrically actuated cylinders with through-hole in their product range.



hydraulic operated



pneumatical operated



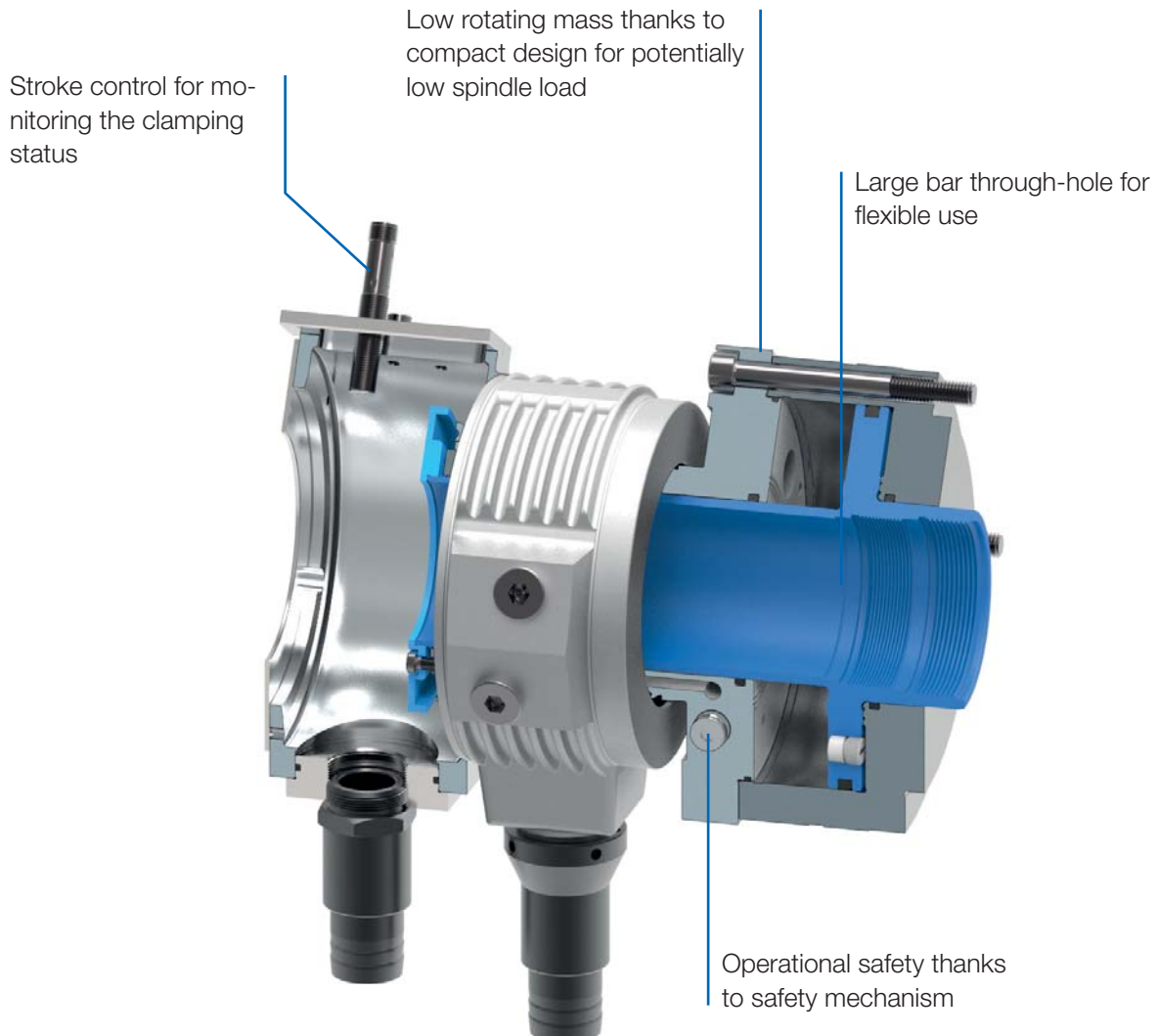
electrical operated

CYLINDERS WITH THROUGH-HOLE

RÖHM clamping cylinders with through-hole are optimally suited for machining different bar material thanks to their large through-hole. The short design and low weight of the clamping cylinders protect the machine spindle and the safety device ensures operational safety, even if the power fails during spindle rotation.

ADVANTAGES AT A GLANCE

- ⊕ Safe actuation of power chucks and collet chucks for hollow clamping
- ⊕ Versatile applications thanks to oil, air or electricity actuator media
- ⊕ Flexible use thanks to large strokes and forces



EHS



APPLICATION

Electrical actuation of power chucks/collet chucks with through-hole.

TYPE

Hollow clamping cylinder with bar through-hole up to 67 mm.

CUSTOMER BENEFITS

- ③ Energy-efficient, since energy is only required during the clamping and unclamping operation
- ③ Flexible use thanks to optimal stroke and force control option (force change, even during rotation)
- ③ High precision thanks to low thermal influences
- ③ Increase in operational safety and quality thanks to constant monitoring of the clamping status
- ③ Low-maintenance and environmentally friendly thanks to omission of hydraulic components
- ③ Stroke sensor outside of dirty area to reduce error susceptibility

TECHNICAL FEATURES

- Coolant collector
- Standard spindle fastening: EHS-37 from the rear, EHS-67 from the front (other spindle flanges on request)
- Motor mount must be fastened to the machine

Scope of delivery:

Mechanical electric clamping cylinder, incl. stroke and force sensor, stationary motor mount, incl. connection components of the toothed belt drive

Note:

Servo motor, control unit, servo amplifier, set of cables and electronic accessories must be ordered separately

Sample calculation for energy savings with an electrical cylinder:

Energy consumption of an oil-operated clamping cylinder

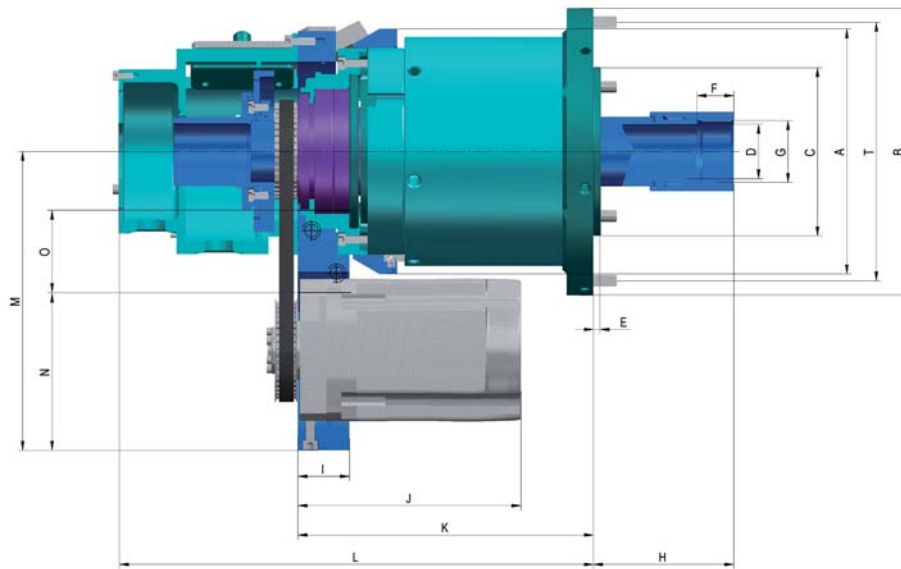
Output of hydraulic unit:	1,5 kW
Power dissipation from cylinders:	0,9 kW
Total output of an oil-operated clamping cylinder:	2,4 kW
Energy consumption per year:	14.400 kWh

Energy consumption of an electrical cylinder:

Total output of the EHS:	0,1 kW
Energy consumption per year:	600 kWh
Energy saving potential per year:	13.800 kWh

The above assumptions have been based on a standard manufacturing process in three-shift operation and may vary depending on the application involved. Where greater efficiency is achieved in the processing (e.g. by getting the best possible match between the cylinder and the process, or through shorter lift times), even more energy can be saved by indirect means.

EHS



C 15
Electrical cylinder with through-hole EHS

Item no.	1289821 ▲	1290622 ▲
Pull force area kN	5-50	5-68
Total stroke mm	32	32
External Ø A mm	167	255,5
Ø B mm	195	209,8
C h 6 mm	115	170
Through-hole D mm	37	67
E mm	5	8
T Pitch circle spindle connection	176 (M8 - 6x60°) Fastening from the rear	196 (M6 - 12x30°) Fastening from the front
F mm	25	25
G	M42x1,5	M75x2
Stroke min/max	63/95	57/89
I mm	35	33,5
J mm	151,5	177,5
K mm	200,7	226,6
L mm	322,5	348
M mm	203	260
N mm	98	130
O mm	55	55
Speed max. min-1	6000	6000
Weight approx. kg	28,9	60
Rotating mass kg	25	53
Moment of inertia kg/m ²	0,086	0,36

Accessories EHS - Necessary for function

C 15

Servo drive for electrical cylinders

Item no.	Size	Contents of delivery	Type
1293003 ▲	EHS-37	piece	Siemens 1FK7040-2AK71-1TG0, Type: Resolver, without brake
1293004 ▲	EHS-67	piece	Siemens 1FK7042-2AK71-1TG0, Type: Resolver, without brake

C 15

Control unit for electrical cylinders

Item no.	Contents of delivery	Type
1266223 ▲	piece	Control unit for electrical cylinders, communication Type: PROFIBUS, incl. software with standard functions

Optional: PROFINET, CANopen, Digital/Analog on request

C 15

Servo amplifier for electrical cylinders

Item no.	Contents of delivery	Type
1290634 ▲	piece	Servo amplifier AC12A00S03.00 to control servo motor; without security card
1290635 ▲	piece	Servo amplifier SIK2 AC12A00S03.00 to control servo motor; with security card

A servo amplifier optionally with or without security card will be needed

C 15

Cable set for electrical cylinders

Item no.	Contents of delivery	Type
1268783 ▲	piece	Contains encoder cable and power line between servo drive and servo amplifier; sensor cable between electrical cylinder and control unit; CAN-line (3m) between servo amplifier and control unit (cable length: 20m)

All electrical connections and cables between machine and cylinder have to be provided by the customer

Accessories EHS - Optionally for function

C 15

Brake module for electrical cylinders

Item no.	Contents of delivery	Type
1266231 ▲	piece	Brake modul 11BC1-14: For connection to the servo amplifier to dissipate the braking energy. Necessary if there is no intermediate circuit supply at the machine

C 15

Brake resistor for electrical cylinders

Item no.	Contents of delivery	Type
1266232 ▲	piece	Brake resistor 39BR006: For dissipate of the braking energy. Necessary if there is no intermediate circuit supply at the machine



Notes

SZS



APPLICATION

Hydraulic actuation of power chucks/collet chucks with through-hole.

TYPE

Hollow clamping cylinders for actuation pressures of 8-45 bar.

CUSTOMER BENEFITS

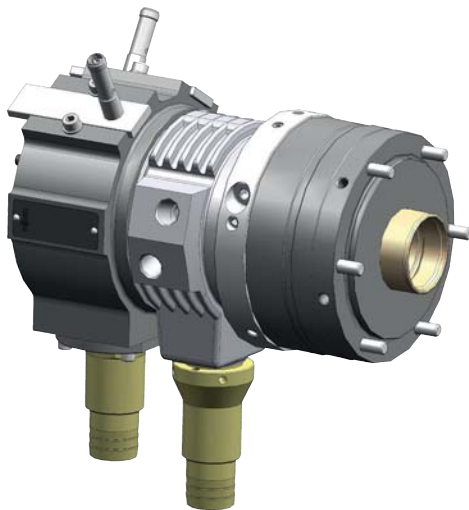
- ⊕ Short design and low weight ensure small machine spindle load and also allow high speeds
- ⊕ Thanks to the large through-hole, optimally suited for machining bar material
- ⊕ Operational safety thanks to safety mechanism, guaranteed even if there is a pressure drop during spindle rotation

TECHNICAL FEATURES

- Stroke control by means of inductive proximity system or linear path measuring system F90 (stroke control system not included in the scope of delivery)
- Overpressure safeguard
- Coolant collector
- Fastening from the rear with through bolts
- For its actuation, we recommend hydraulic oil H-LP 32, DIN 51525 (32 centistokes at 40° Celsius)
- Insert a filter unit (10 µm) between the pump and control valve
- Can also be actuated during rotation
- Hollow clamping cylinders can usually only be used for horizontal machining axes

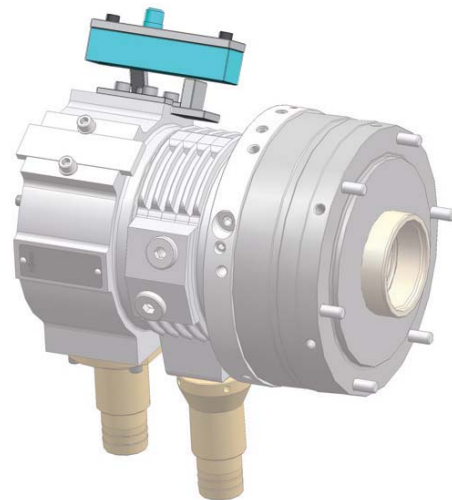
Note:

RÖHM clamping cylinders meet the testing requirements of the Employer's Liability Insurance Association thanks to their safety system and stroke check



Standard:

Prepared for inductive proximity system

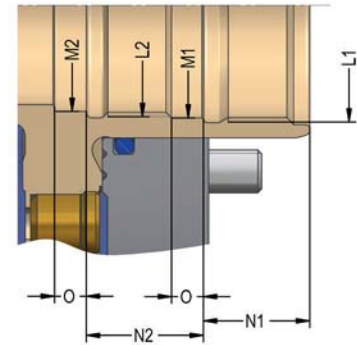
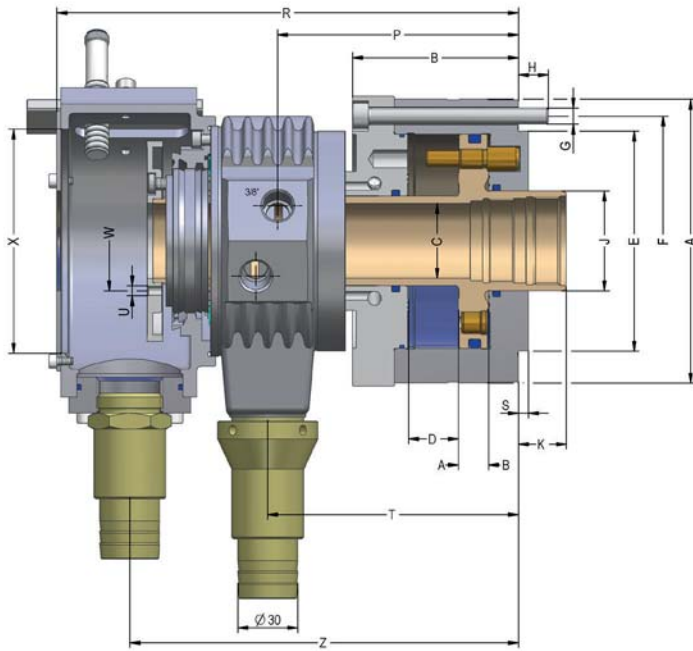


Optional stroke monitoring with F 90:

High resolution, minimal temperature drift, contactless, teachable, inductive effect principle

Oil-operated actuating cylinders with through-hole

SZS up to 45 bar, short design

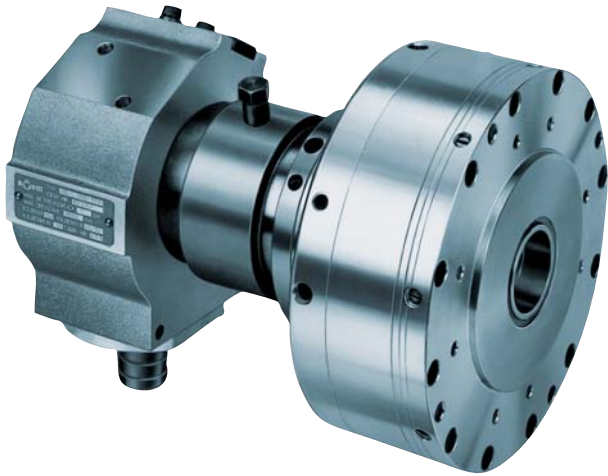


C 15
Oil operated cylinders SZS, basic model up to 45 bar, short design for high speeds

Item no.	432765	432766	432767	432768	432769 ▲	432770 ▲	435766 ▲	433217 ▲
Size	46/103	52/130	67/150	77/170	86/200	95/225	110/250	127/325
A mm	162	182	197	212	228	245	264	295
B mm	83	83	94	94	104	104	104	127
C mm	46,5	52,5	67,5	77	86,5	95,5	110,5	127,5
Stroke D mm	25	25	30	30	35	35	35	40
Eh6 mm	130	140	160	160	180	210	210	250
F mm	147	165	180	185	210	227	240	270
G	6xM8	6xM8	6xM10	6xM10	6xM10	6xM10	6xM10	6xM12
H mm	15	15	15	15	15	15	16	20
J mm	61	70	85	95	105	115	130	145
K max.	22	22	25	25	31	31	31	44
K min.	-3	-3	-5	-5	-4	-4	-4	4
L1	M55x2	M60x1,5	M75x2	M85x2	M95x2	M105x2	M120x2	M135x2
L2	M50x1,5	M55x2	M72x1,5	M80x2	M90x2	M100x2	M115x2	-
M1 mm	52,5	57,5	72,5	82	92	102,5	117,5	132
M2 mm	47	52,5	69	77	87	97	112	-
N1 mm	25	25	25	25	32	32	32	30
N2 mm	25	28	28	28	30	30	30	-
O mm	6	6	6	6	6	6	6	6
P mm	120,5	120,5	138,5	138,5	155	159	166,3	196
R mm	231	231	269	269	292	302	321	355
S mm	5	5	8	8	8	8	8	5
T mm	125,75	125,75	142,75	142,75	159,25	163,25	171,5	201,5
U	2xM6	2xM6	2xM6	2xM6	2xM6	2xM6	4xM6	2xM6
W mm	68	76	91	91	116	120	135	150
X mm	122	122	135	145	167	177	116	131
Z mm	195,5	195,5	225	226	249	259	275	307
Piston area A cm ²	109,8	142,4	164,5	184	212,6	243,5	267	337
Piston area B cm ²	103,5	131	152	170	197	226,2	247,4	325,7
Eff. draw bar pull (F=45 bar) kN	46	58	68	76	88	100	110	145
Max. admissible speed min ⁻¹	7000	6300	5500	5000	4500	4000	3500	3200
Oil leakage rate (30 bar 50° C - n max.) l/min	3	3,5	4	4,5	5	5	5	6
Moment of inertia J kgm ²	0,03	0,045	0,07	0,13	0,17	0,3	0,35	0,58
Weight approx. kg	16	18	22	30	35	38	48	66

Oil-operated cylinders with through-hole

LHS-L



APPLICATION

Pneumatic actuation of power chucks/collet chucks with through-hole.

TYPE

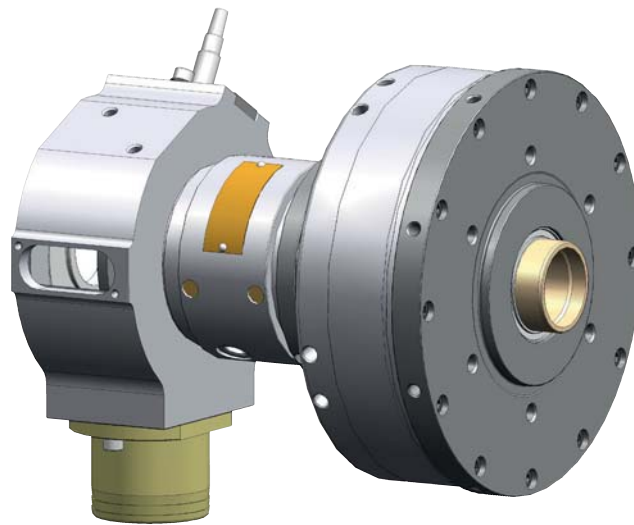
Hollow clamping cylinders for actuation pressures from 1.5-8 bar.

CUSTOMER BENEFITS

- ⊕ Short design and low weight ensure small machine spindle load and also allow high speeds
- ⊕ Thanks to the large through-hole, optimally suited for machining bar material
- ⊕ Operational safety thanks to safety mechanism, guaranteed even if there is a pressure drop during spindle rotation

TECHNICAL FEATURES

- Stroke control via inductive proximity switches (not included in the scope of delivery)
- Coolant collector
- Can also be actuated during rotation



Accessories:

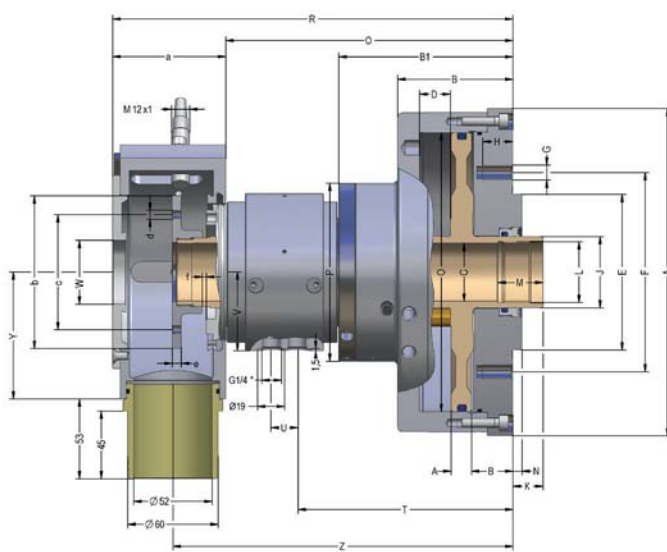
Connection for supply and drain hoses

Special accessories:

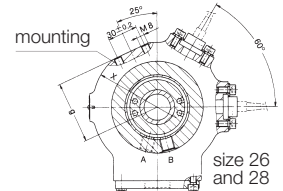
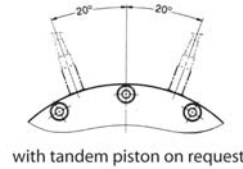
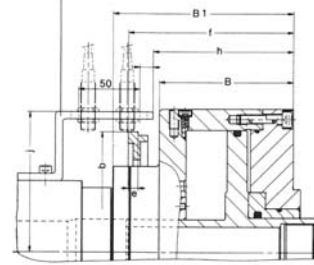
2 inductive proximity switches piece/item no. 381551 (opener)
or 2 inductive proximity switches piece/item no. 202759 (closer)

With tandem piston on request.

LHS-L



stroke control size 42 and 62



C 15

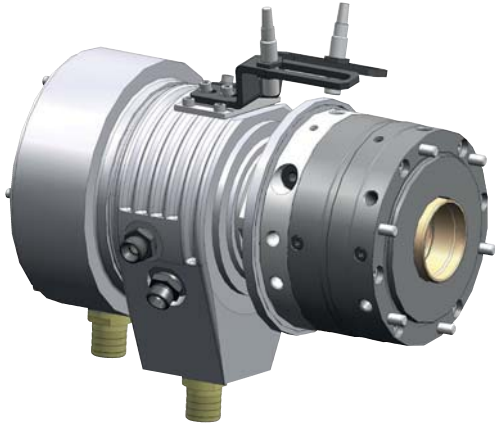
Air actuating cylinders with through-hole LHS-L with safety valve

The coolant collection shell (sizes 26 and 38) must be held centrally by a bracket on the machine

Item no.	417310 ▲	417311 ▲	417312 ▲
Size	26/190	38/251	42/289
A mm	187	215	235
B mm	76	78	109,7
B1 mm	110	110	147,5
C mm	26,2	38,2	42
Stroke D mm	20	20	32
E-0,01 mm	70	103	103
F mm	105	132	145
G	6 x M 8	6 x M 10	8 x M 8
H mm	15	20	20
J mm	38	50	57
K max.	20	20	20
K min.	0	0	-12
L	M 32 x 1,25	M 44 x 1,5	M 52 x 1,5
M mm	25	30	30
N mm	5	6	6
O mm	160	185	200
P mm	106	118	140
Q mm	197	198	263,7
R mm	275	273	337,7
S mm	210	211	283,5
T mm	141	140	188
U mm	23	23	28,5
V mm	46	52	60
W mm	42	42	51
X mm	130	151	151
Y mm	73,5	84	84
Z mm	233,5	233	297,7
a mm	78	75	74
b mm	77	101	197
c mm	61	76	-
d	4 x M 6	4 x M 6	-
e mm	7,5	7,5	8
f max.	22,5	22,5	135
f min.	2,5	2,5	167
g mm	62	72	-
h mm	-	-	114,7
j mm	-	-	115
Piston area A cm ²	189,7	249,1	288,6
Piston area B cm ²	190,9	251,4	291,3
Eff. draw bar pull (F=6 bar) kN	10,47	13,75	15,90
Max. admissible speed min-1	6500	6500	4000
Volume for full double stroke l	0,762	1	1,9
Moment of inertia J kgm ²	0,03	0,06	0,102
Weight approx. kg	11,8	16	25,5

When working with high and low pressure, the release of the safety valve is guaranteed for clamping pressure: unclamping pressure ≤ 2:1

Special solutions - on request



SZS (80 bar) Hollow clamping cylinder

APPLICATION

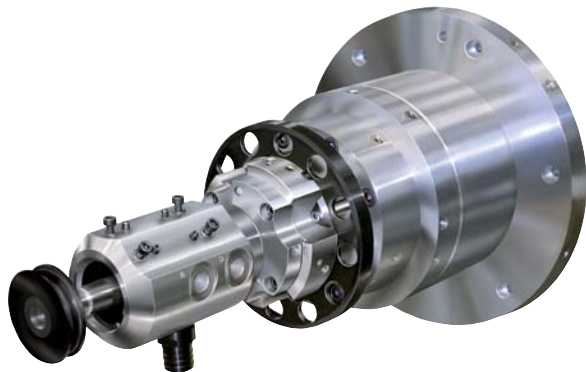
For the hydraulic actuation of power chucks/collet chucks with through-hole.

TYPE

Hollow clamping cylinders for actuation pressures up to 80 bar.

CUSTOMER BENEFITS

- ⌚ Stroke control outside of the coolant collection bowl
- ⌚ Operational safety thanks to safety valve, guaranteed even if there is a pressure drop during spindle rotation
- ⌚ Low mass moment of inertia and required installation space thanks to reduced external diameter
- ⌚ Flexible application: Low draw forces thanks to reduced piston surface, and nevertheless maximum draw forces thanks to high maximum actuation pressure



OVUSHH Double piston cylinder

APPLICATION

For hydraulic actuating of power chucks with additional functions (ejector, retractable center points, etc.).

TYPE

With 4-way oil supply.

CUSTOMER BENEFITS

- ⌚ Different strokes, piston surfaces and arbitrary safety requirements can be realized thanks to modular system
- ⌚ Feed-through of another medium (coolant, oil, air, etc.) through the cylinder axis by installing an additional rotary feed-through.



Notes



FOR EVERY APPLICATION

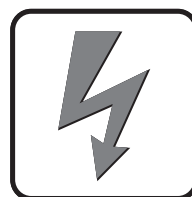
In order to be able to satisfy every application, RÖHM has hydraulically, pneumatically as well as electrically actuated cylinders without through-hole in their product range.



hydraulic operated



pneumatically operated



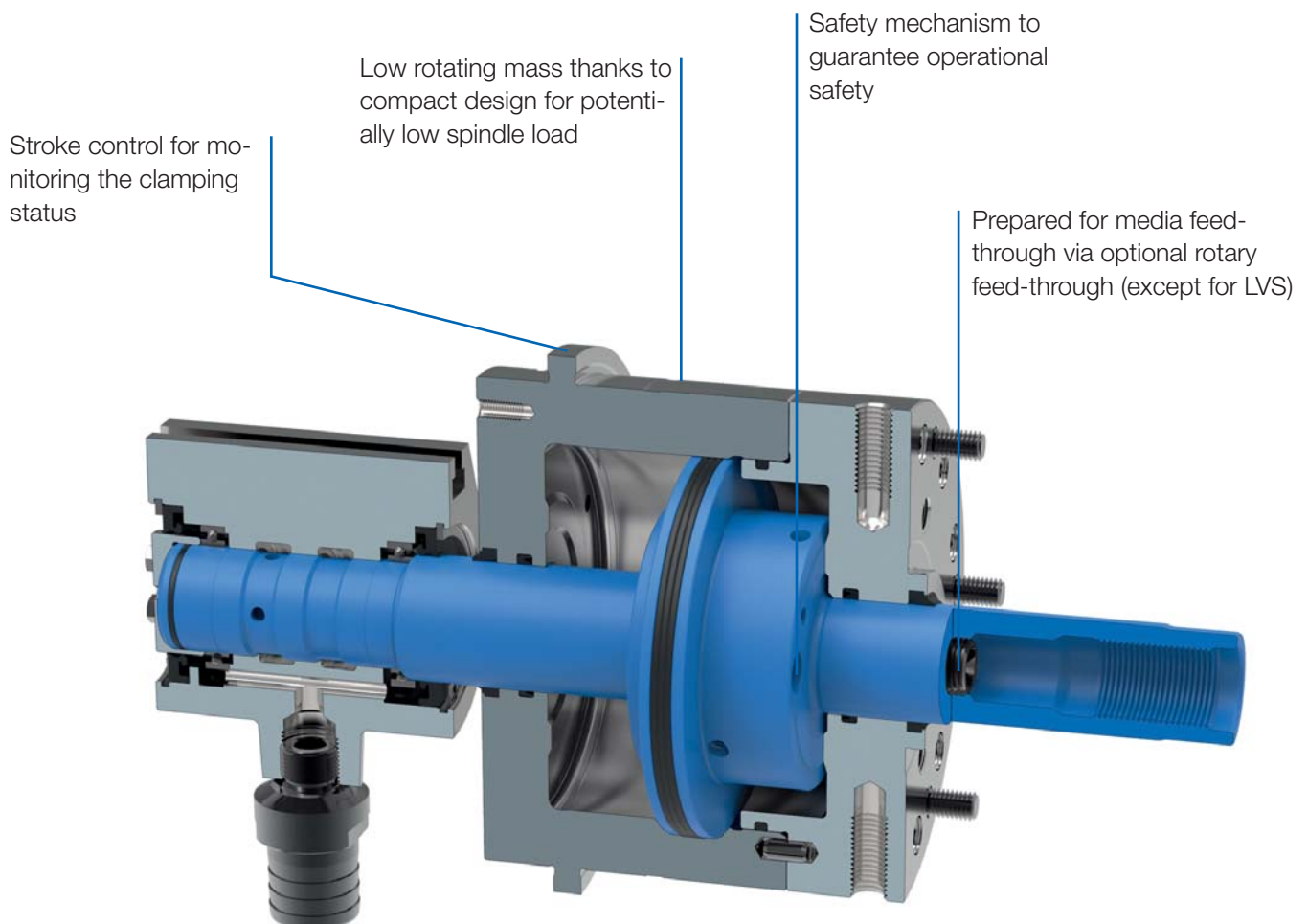
electrically operated

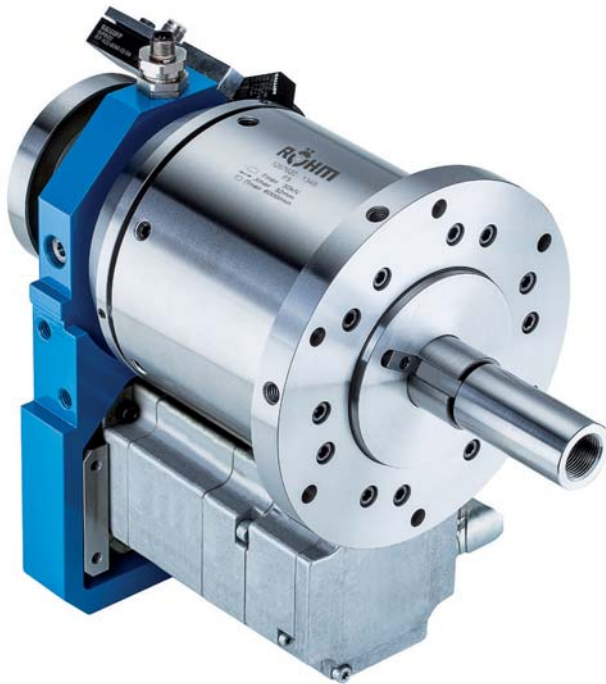
CYLINDER WITHOUT THROUGH-HOLE

RÖHM clamping cylinders without through-hole are optimally suited for actuating power chucks or special clamping devices for full or partial hollow clamping. Thanks to the possibility of a horizontal or vertical installation position, the clamping cylinders can be used flexibly and the safety mechanism guarantees operational safety, even if the power fails during spindle rotation.

ADVANTAGES AT A GLANCE

- ⊕ Safe actuation of power chucks or special clamping devices for full or partial hollow clamping
- ⊕ Versatile applications thanks to oil, air or electricity actuator media
- ⊕ Flexible use thanks to large strokes and forces





APPLICATION

Electrical actuation of power chucks without through-hole.

TYPE

Clamping cylinder with feed-through Ø 11 mm for coolant or other media.

CUSTOMER BENEFITS

- ⊕ Energy-efficient, since energy is only required during the clamping and unclamping operation
- ⊕ Flexible use thanks to optimal stroke and force control option (force change, even during rotation)
- ⊕ High precision thanks to low thermal influences
- ⊕ Low-maintenance and environmentally friendly thanks to omission of hydraulic components
- ⊕ Increase in operational safety and quality thanks to constant monitoring of the clamping status

TECHNICAL FEATURES

- Standard spindle mounting from the rear (other spindle flange on request)
- Motor mount must be fastened to the machine
- Possible attachment of rotary feed-throughs

Scope of delivery:

Mechanical electric clamping cylinder, incl. stroke and force sensor, stationary motor mount, incl. connection components of the toothed belt drive

Note:

Servo motor, control unit, servo amplifier, set of cables and electronic accessories must be ordered separately.

Sample calculation for energy savings with an electrical cylinder:

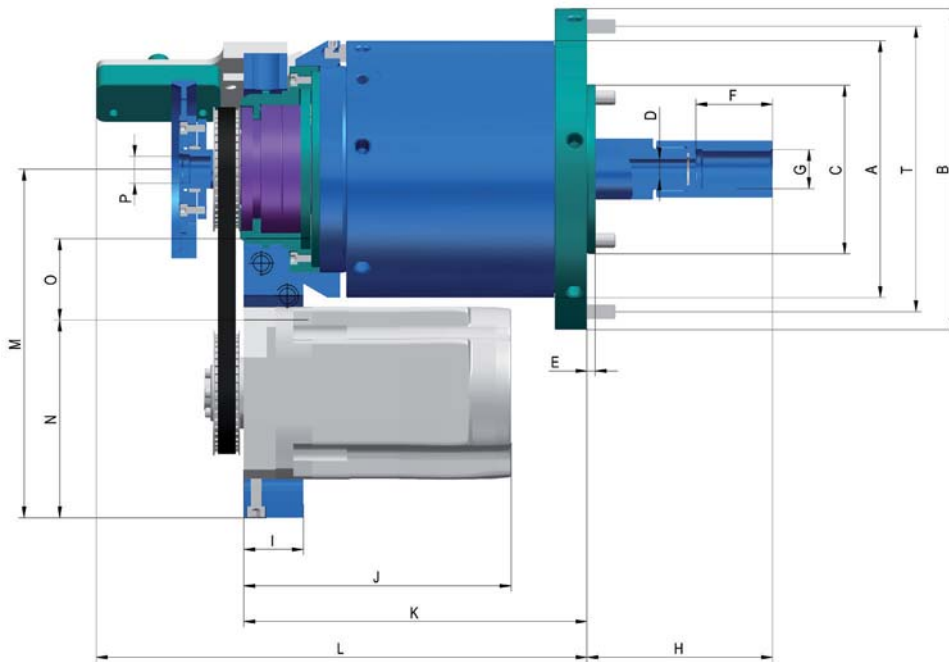
Energy consumption of an oil-operated clamping cylinder

Output of hydraulic unit	1,5 kW
Power dissipation from cylinders:	0,9 kW
Total output of an oil-operated clamping cylinder:	2,4 kW
Energy consumption per year:	14.400 kWh

Energy consumption of an electrical cylinder:

Total output of the EVS:	0,1 kW
Energy consumption per year:	600 kWh
Energy saving potential per year:	13.800 kWh

The above assumptions have been based on a standard manufacturing process in three-shift operation and may vary depending on the application involved. Where greater efficiency is achieved in the processing (e.g. by getting the best possible match between the cylinder and the process, or through shorter lift times), even more energy can be saved by indirect means.



C 15
 Electrical cylinder without through-hole EVS with feed-through $\varnothing 11$ mm for coolant or other media

Item no.	1267620 ▲
Pull force area kN	5-50
Total stroke mm	32
External \varnothing A mm	144
\varnothing B mm	180
C h 6 mm	95
Through-hole D mm	11
Pitch circle spindle connection T	160 (M8 6x60°)
E mm	5
F mm	43
G	M22x1,5
Stroke min/max	72/104
I mm	33,5
J mm	150
K mm	192,5
L mm	275
M mm	195,5
N mm	110,5
O mm	55
P	5/8-18 UNF
Speed max. min-1	6000
Rotating mass kg	22,8
Weight approx. kg	34,8
Moment of inertia kg/m ²	0,059

Accessories EVS - Necessary for function

C 15
Servo drive for electrical cylinders

Item no.	Size	Contents of delivery	Type
1293003 ▲	EVS-50	piece	Siemens 1FK7040-2AK71-1TG0, Type: Resolver, without brake

C 15
control unit for electrical cylinders

Item no.	Contents of delivery	Type
1266223 ▲	piece	Controller for electrical cylinders, communication Type: PROFIBUS, incl. software with standard functions

Optional: PROFINET, CANopen, Digital/Analog on request

C 15
Servo drive for electrical cylinders

Item no.	Contents of delivery	Type
1290634 ▲	piece	Servo amplifier AC12A00S03.00 to control servo motor; without security card
1290635 ▲	piece	Servo amplifier SIK2 AC12A00S03.00 to control servo motor; with security card

A servo amplifier optionally with or without security card will be needed

C 15
Cable set for electrical cylinders

Item no.	Contents of delivery	Type
1268783 ▲	piece	Contains encoder cable and power line between servo drive and servo amplifier; sensor cable between electrical cylinder and control unit; CAN-line (3m) between servo amplifier and control unit (cable length: 20m)

All electrical connections and cables between machine and cylinder have to be provided by the customer

Accessories EVS - Optionally for function

C 15
Brake module for electrical cylinders

Item no.	Contents of delivery	Type
1266231 ▲	piece	Brake modul 11BC1-14: For connection to the servo amplifier to dissipate the braking energy. Necessary if there is no intermediate circuit supply at the machine

C 15
Brake resistor for electrical cylinders

Item no.	Contents of delivery	Type
1266232 ▲	piece	Brake resistor 39BR006: For dissipate of the braking energy. Necessary if there is no intermediate circuit supply at the machine



Notes

OVS



APPLICATION

Hydraulic actuation of power chucks (full or partial hollow clamping).

TYPE

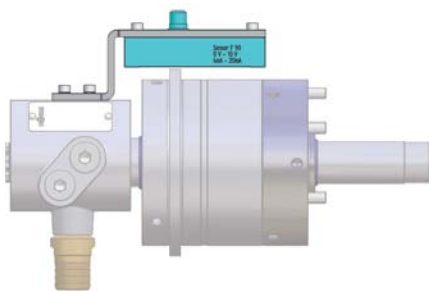
Clamping cylinders without through-hole for actuation pressures from 8-80 bar.

CUSTOMER BENEFITS

- ④ Compact design and low mass moment of inertia for low machine spindle load
- ④ Operational safety thanks to safety mechanism, guaranteed even if there is a pressure drop during spindle rotation
- ④ Flexible use thanks to possible horizontal or vertical installation position

TECHNICAL FEATURES

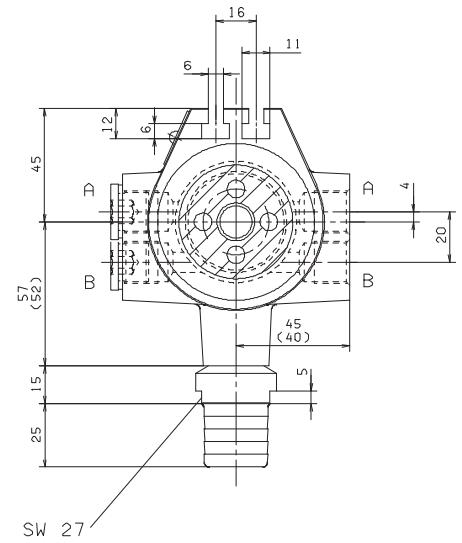
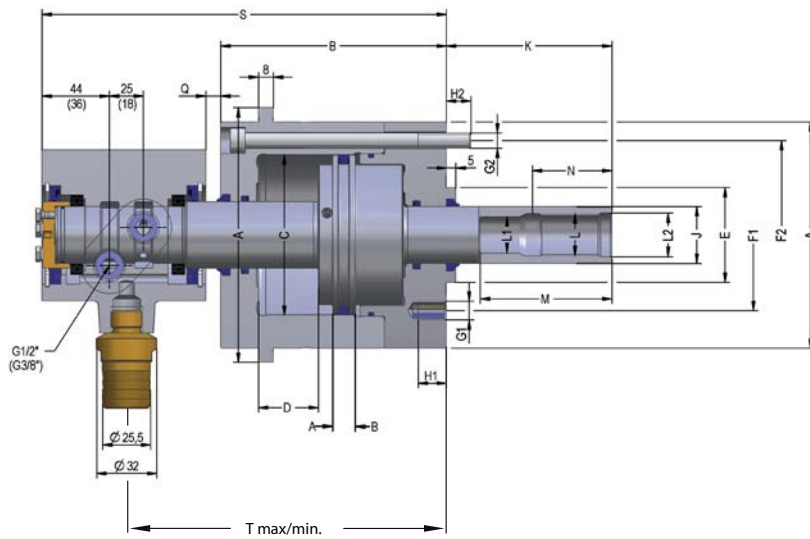
- Stroke control by means of inductive proximity system or linear path measuring system F90 (stroke control system not included in the scope of delivery)
- Through-hole for media feed-through
- For its actuation, we recommend hydraulic oil H-LP 32, DIN 51525 (32 centistokes at 40° Celsius)
- Insert a filter unit (10 µm) between the pump and control valve



Stroke control with monitoring system F 90:

- High resolution and accuracy
- Minimal temperature drift
- Contactless
- Teaching mode
- Inductive principle of operation

With high and low pressure chucking the change-over of the safety valve is guaranteed when:
 chucking pressure : releasing pressure = < 5,5 : 1 (Size 85 - 130)
 chucking pressure : releasing pressure = < 3,8 : 1 (Size 150 - 200)

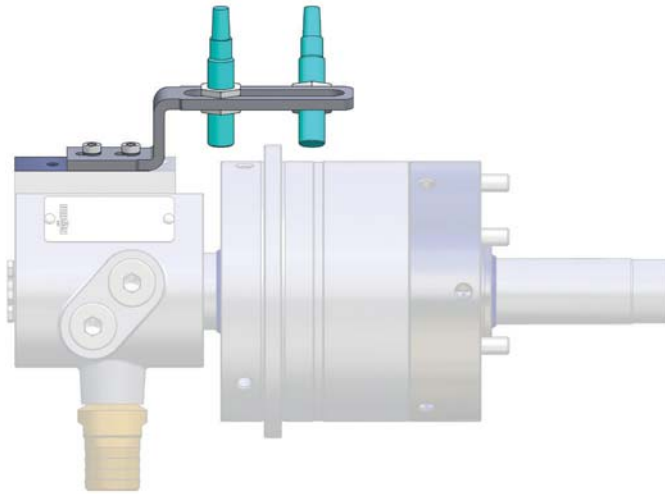


C 15
Oil-operated actuating cylinders without through-hole OVS, basic model, with safety device, up to 80 bar -
 Steel design for high speed, fastening from the rear, central through-hole

Item no.	438261	438262	438263	438264	438265
Size	85	105	130	150	200
Design	steel	steel	steel	steel	steel
A mm	120	140	165	193	245
A1 mm	135	155	180	208	260
B mm	120	120	120	147	164
C mm	85	105	130	150	200
Stroke D mm	32	32	32	45	50
Eh6 mm	50	50	80	95	125
F1 mm	80	80	105	145	170
F2 mm	100	120	145	170	220
G1	M10 (3x120°)	M10 (4x90°)	M12 (4x90°)	M16 (4x90°)	M16 (6x60°)
G2	M8 (6x60°)	M8 (6x60°)	M8 (8x45°)	M10 (8x45°)	M12 (8x45°)
H1 mm	15	15	18	24	29
H2 mm	13	13	13	14	19
J mm	30	32	42	50	70
K max.	88	88	82	98	108
K min.	56	56	50	53	58
L mm	M 22 x 1,5	M 22 x 1,5	M 30 x 2	M 36 x 2	M 48 x 2
L1 mm	19	19	26	30	42
L2 mm	23	23	32	38	50
M mm	70	70	88	105	125
Min. reach of draw bar N mm	43	43	65	78	90
Q max.	40	40	40	53	58
Q min.	8	8	8	8	8
S max.	252	247	247	307	329
S min.	220	215	215	262	279
T max.	202	202	202	250	272
T min.	170	170	170	205	222
Piston area A cm ²	47,1	77	116,8	160,8	298,2
Piston area B cm ²	49,7	78,6	118,9	157,1	275,7
Eff. draw bar pull (F=60 bar) kN	29,50	47	71,3	94	165,4
Max. admissible speed min-1	8000	8000	5000	5500	4500
Volume for full double stroke l	0,31	0,5	0,775	1,43	2,87
Moment of inertia J kgm ²	0,018	0,03	0,066	0,142	0,36
Weight approx. kg	10	12,7	17,7	31,4	49
Suitable connecting flange for Duoflow Rotating Unions	1022186	1022186	1022187	1022187	1022187

Oil-operated cylinders without through-hole

Stroke Monitors OVS



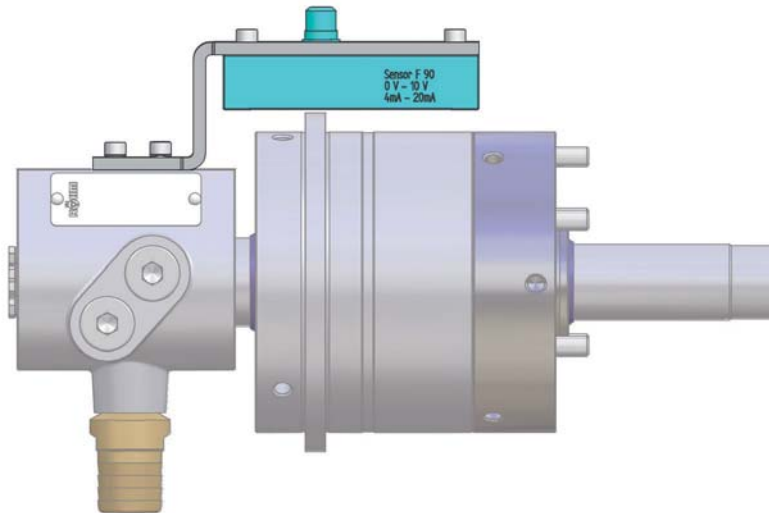
C 15

OVS-stroke monitoring by inductive proximity switches (Limit switch not included in the scope of delivery)

Item no.	Size
1159712	OVS 85
1159713	OVS 105
1159714	OVS 130
1159715	OVS 150
1159716	OVS 200

Order cylinder separately

External rotary feed-throughs fitting Deublin/Rotoflux



Oil-operated cylinders without through-hole

C 15

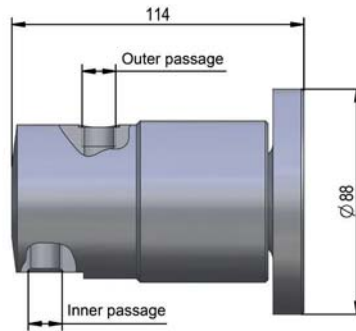
OVS-stroke monitoring linear, inductive F90 (F90 system included)

Item no.	Size
1159707	OVS 85
1159708	OVS 105
1159709	OVS 130
1159710	OVS 150
1159711	OVS 200

Order cylinder separately

External rotary feed-throughs fitting Deublin/Rotoflux

Accessories



C 15

2-Through-hole rotating unions

Item no.	Inner passage			Outer passage		
	Connection	Media	Max. Pressure	Connection	Media	Max. Pressure
1118079	1/4	Oil	70	1/4	Air	10
1118080	1/4	Coolant	70	1/4	Air	10
1118081	3/8	Air	10	1/8	Air	10
1118082	1/4	Air	10	1/4	Oil	40
1118083	1/4	Air	10	1/4	Coolant	40

Optional: 1-Through-hole Rotating Union for OVS Size 85-105 Item No.: 600599

Optional: 1-Through-hole Rotating Union for OVS Size 130-150 Item No.: 326372

Optional: 1-Through-hole Rotating Union for OVS Size 200 Item No.: 611172

Connecting flange complete for 2-passage rotating union size 85-105 Item no.: 1022186

Connecting flange complete for 2-passage rotating union size 130-200 Item No.: 1022187



APPLICATION

Pneumatic actuation of power chucks or special clamping devices (full or partial hollow clamping).

TYPE

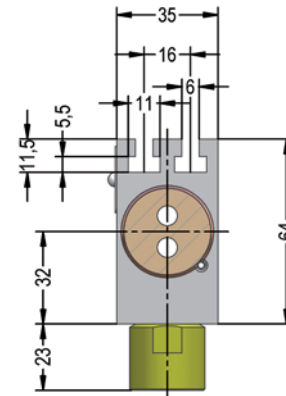
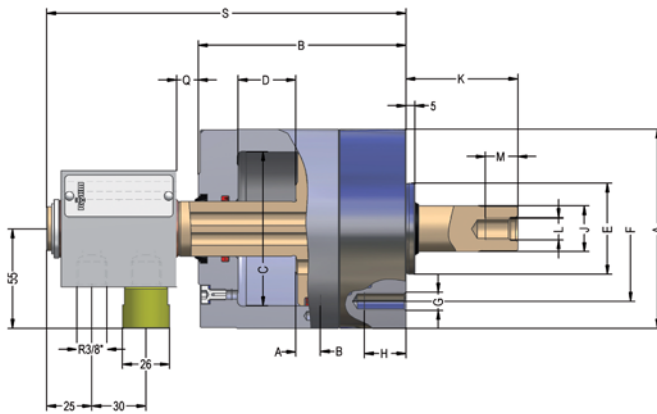
Clamping cylinders without through-hole for actuation pressure 2-10 bar.

CUSTOMER BENEFITS

- ⊕ Operational safety thanks to standard safety mechanism, guaranteed even if there is a pressure drop during spindle rotation
- ⊕ Flexible use thanks to possible horizontal or vertical installation position

TECHNICAL FEATURES

- Stroke control by means of inductive proximity system or linear path measuring system F90, fastened on the machine side (stroke control system not included in the scope of delivery)
- The maximum permissible speed can be run in continuous operation (100% ED)
- Can also be actuated during rotation
- On request with central media feed-through



C 15
LVS Air actuating cylinders without through-hole, with safety mechanism and stroke control

Item no.	096553	096554	096555	096556	096557	096558	096560
Size	85	105	130	150	200	250	350
A mm	110	130	155	180	240	287	387
B mm	115	115	117	128	125	125	148
C mm	85	105	130	150	200	250	350
Stroke D mm	32	32	32	32	32	32	45
Eh6 mm	50	50	80	95	95	125	125
F mm	80	80	105	145	145	170	170
G	3 x M 10	3 x M 10	3x M 12	4 x M 16	4 x M 16	6 x M 16	6 x M 16
H mm	23	23	27	35	35	35	35
J mm	25	25	25	25	35	35	35
K max.	62	88	79	74	87	87	82
K min.	30	56	47	42	55	55	37
L	M 12	M 12	M 16	M 16	M 24	M 24	M 24
M mm	18	18	24	24	36	36	36
Q max.	44	44	44	44	44	44	57
Q min.	12	12	12	12	12	12	12
S max.	231	231	233	244	241	241	277
S min.	199	199	201	212	209	209	232
Piston area A cm ²	49,7	79,5	125,7	169,6	307,1	483,8	955
Piston area B cm ²	51,8	81,7	127,8	171,8	304,5	481,5	952,5
Eff. draw bar pull (F=6 bar) kN	3	4,80	7,50	10	18	28,50	56,50
Max. admissible speed min ⁻¹	5000	5000	5000	5000	4500	4000	3200
Air consumption for full double stroke at 6 bar NL	2,8	4,6	6,5	7,5	12,5	18	50
Moment of inertia J kgm ²	0,007	0,009	0,03	0,06	0,09	0,10	0,45
Weight approx. kg	5,3	6,5	9	12,5	19,5	23	32,5

Air operated cylinders without through-hole