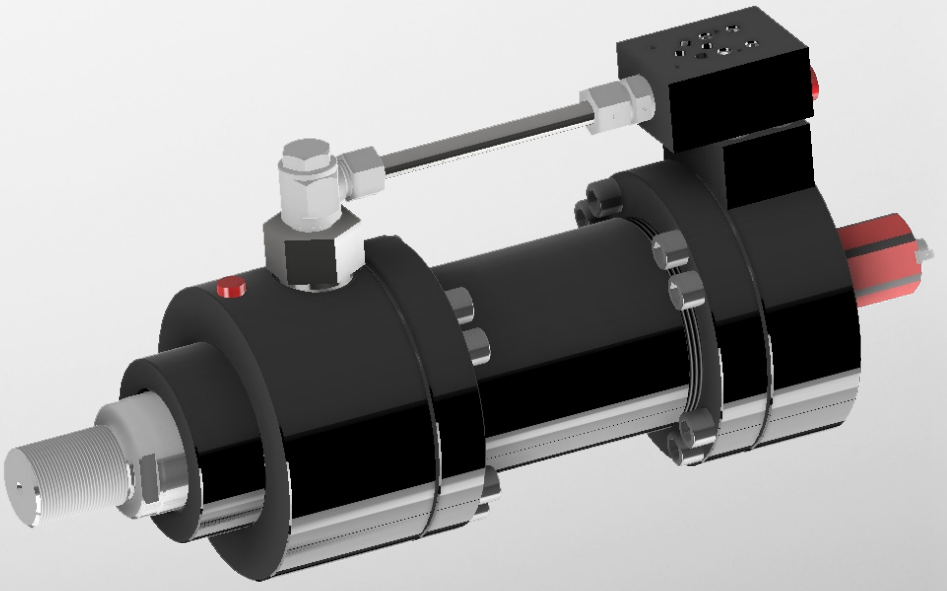
CABOL®
FLUID ENGINEERING

Hydraulic Beyond Limits



HYDRAULIC SERVO-CYLINDERS

SCG Series

PRESENTATION

The SCG hydraulic servo-cylinders are double-acting actuators designed in accordance with ISO 6022 and are ideal for use in industrial applications requiring maximum reliability, high performance, and long service life. The SCG servo-cylinders include:

- Standard linear position transducer featuring advanced magnetostrictive technology for precise position control in industrial automation applications.
- The option of an integrated interface block; this allows a suitable control valve to be mounted directly on the servo-cylinder.

GENERAL CONSTRUCTION NOTES

- Compact design with rounded ends and locknuts
- Custom steel components designed with high safety factors
- Bore and rod diameters in accordance with standards
- Strokes ranging from 25 mm (for cylinders with a 150 mm block) to 3000 mm in 5 mm increments.
- Integrated linear position transducer with magnetostrictive technology
- Standard drain on the front head to drain fluid accumulated between the gaskets
- Standard low-friction seals
- Integrated interface module available in 4 different versions
  - ISO 4401-03-02-0-05 (dim.06)
  - ISO 4401-05-05-0-05 (dim.10)
  - ISO 4401-07-07-0-05 (dim.16)
  - ISO 4401-08-08-0-05 (dim.25)
- Chrome-plated rods, bolted and secured to the pistons, and manufactured to design specifications

TECHNICAL SPECIFICATIONS

Applicable regulations	ISO 6022
Piston diameter [mm]	50 - 63 - 80 - 100 - 125 - 160 - 180 - 200 - 250 - 320
Shaft diameter [mm]	36 – 45 – 56 – 70 – 90 – 110 - 125 - 140 - 180 - 220
Operating pressure [bar / psi]	250 / 3625,94 (continuous service)
Maximum pressure [bar / psi]	320 / 4641,21 (peak pressure)
Operating temperature [°C]	From -20°C to +100°C
Translation speed [m/s]	Up to 15 m/s
Working fluid	Mineral oil that meets the standards ISO 6743/4
Magnetostrictive position transducer	Analog output signal available 0-10V - analog 4-20 mA - Digital SSI
Degree of contamination	Class of 20/16/15 second ISO 4406:1999 NAS 9

CYLINDER TYPE

Table 1

CIL SCG	Standard servo cylinder
CIL SCG9	Special servo cylinder

TYPE CODE FOR STANDARD PROGRAM

Encoding

*** / * - *** / *** X **** - ** * * * - * . 10

Cylinder type
SCG
SCG9 (edited)

CETOP block integrated into the cylinder (Table 1)

Piston diameter [mm] (3 numbers, with a 0 in front if <100)

Rod diameter [mm] (3 numbers, with a 0 in front if <100)

Stroke [mm] (4 digits, 0 remaining) fill in by hand

Connection type (Table 2)

Threaded rod (Table 3)

Transducer type (Table 4)

Spacer (Table 5)

Options (Table 6)

Series

STANDARD FINISH BLACK PAINT RAL 9005

table 1	VALVE BLOCK
00	no block
03	block CETOP 3
05	block CETOP 5
07	block CETOP 7
08	block CETOP 8

table 2	TYPE OF CONNECTIONS
F3	front flange rif. ISO MF3
F4	rear flange rif. ISO MF4
P5	rear male hinge with a joint rif. ISO MP5
T4	central pivot hinge (ISO MT4)
C1	feet (NO ISO)
XX	special

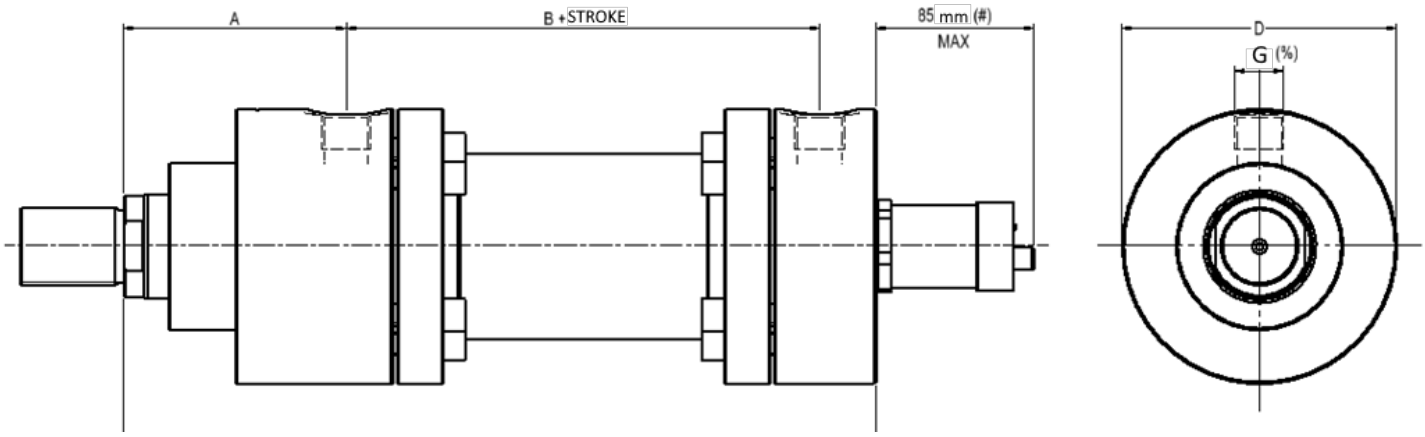
table 3	THREADING ON THE SHAFT
A	Standard Male
B	Reduced Male
C	Standard Female
D	Female Reduced
X	Special

table 4	TRANSDUCER OUTPUT TYPE
E	Analog 4-20 mA
F	Analog 0-10 V
G	24 bit Digital SSI Binary
H	25 bit Digital SSI Binary
L	24 bit Gray SSI Digital
M	25 bit Gray SSI Digital

table 5	SPACER
0	without
1	25 mm
2	50 mm
3	75 mm
4	100 mm
5	125 mm
6	150 mm
7	175 mm
8	200 mm
X	more than 200 mm

table 6	OPTIONS
0	nothing
K	nickel and chrome-plated stem (Nicrom)
T	tempered rod 42CrMo4

SIZE



Ø Piston [mm]	Ø Rod [mm]	A ±2 [mm]	B ±1,5 [mm]	C [mm]	D [mm]
50	36	98	120	244	Ø108
63	45	112	133	274	Ø124
80	56	120	155	305	Ø148
100	70	134	171	335	Ø175
125	90	153	205	396	Ø214
160	110	185	235	467	Ø270
180	110	205	250	505	Ø315
200	140	220	281,5	550	Ø330
250	180	260	325	652	Ø412
320	220	310	350	764	Ø210

(#) For information regarding the transducer's dimensions for cylinders with 50- and 60-mm bores, please contact Cabol Fluid Engineering.

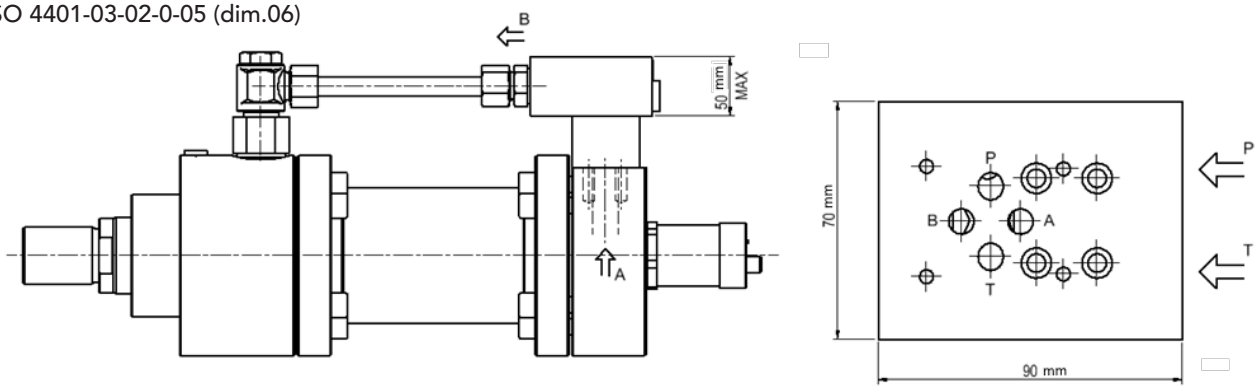
G (%) For SAE or GAS port sizes, refer to the CG ISO 6022 cylinder catalog.

NOTE: For missing data, please refer to the CG ISO 6022 cylinder catalog.

CONTROL VALVE INTERFACE

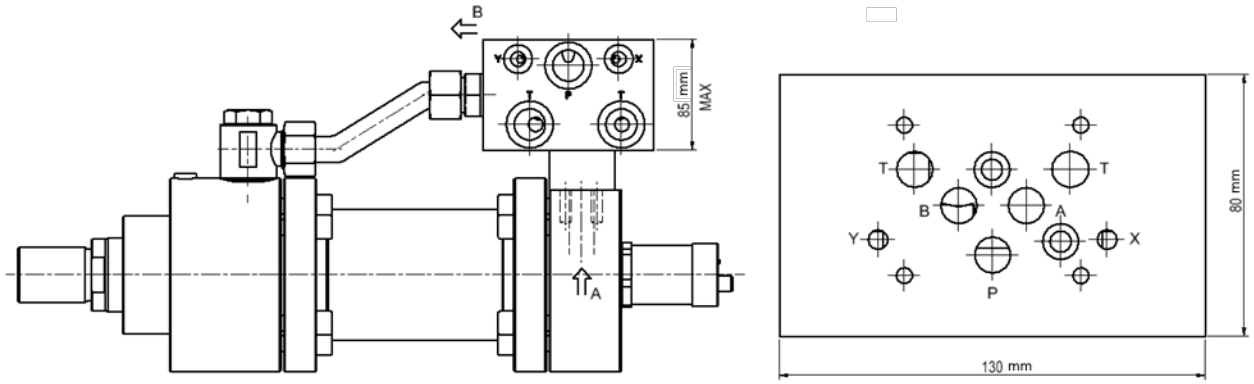
SCG cylinders have oil ports on side 1 and can be supplied with built-in ISO plates (sizes 06, 10, 16, and 25) for mounting valves directly on the cylinder.

• ISO 4401-03-02-0-05 (dim.06)



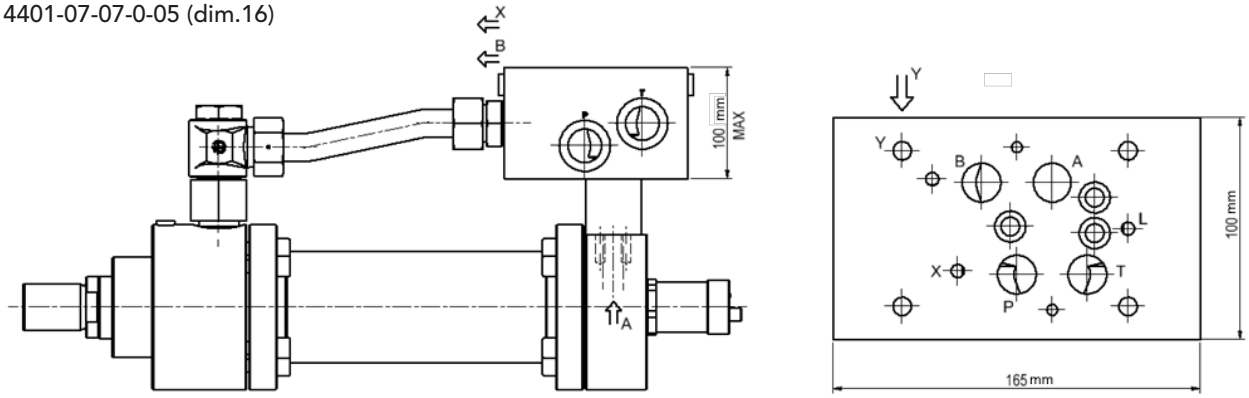
03 = Mounting plate 4401-03-02-0-05 (dim. 06)
P and T oil ports = G 3/8
Bore sizes from 40 to 200 mm and strokes greater than 100 mm
For shorter strokes, please contact Cabol Fluid Engineering

• ISO 4401-05-05-0-05 (dim.10)



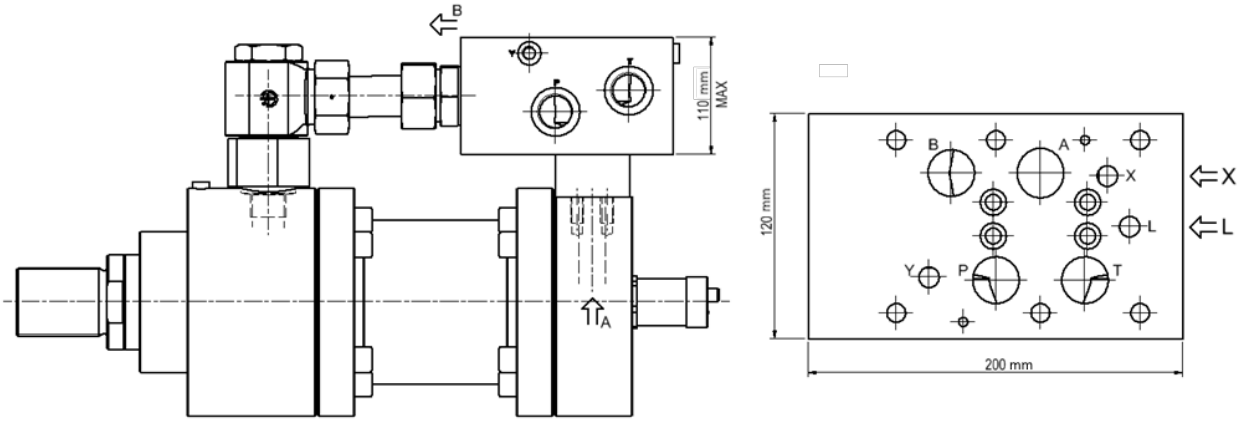
05 = Mounting plate 4401-05-05-0-05 (dim. 10)
P and T oil ports = G 3/4; X and Y = G 1/4
Bore sizes from 40 to 200 mm and strokes greater than 150 mm
For shorter strokes, please contact Cabol Fluid Engineering

• ISO 4401-07-07-0-05 (dim.16)



07 = Mounting plate 4401-07-07-0-05 (dim. 16)
P and T oil ports; L, X and Y = G 1/4
Bore sizes from 80 to 200 mm and strokes greater than 150 mm
For shorter strokes, please contact Cabol Fluid Engineering

- ISO 4401-08-08-0-05 (dim.25)



08 = Mounting plate 4401-08-08-0-05 (dim. 25)
P and T oil ports = G 1; L, X and Y = G 1/4
Bore sizes from 125 to 200 mm and strokes greater than 150 mm
For shorter strokes, please contact Cabol Fluid Engineering

POSITION TRANSDUCER

Cabol SCG servo cylinders are built with standard transducers.

The non-contact design of the position transducer ensures a long service life and allows it to be used even in harsh environmental conditions (shocks, vibrations, etc.) or at high operating frequencies.
The technical design allows the transducer to be replaced without disassembling the cylinder, ensuring quick and easy maintenance. They are available in a wide range of models.
The transducer are available with the following outputs:

Analog:
- 4-20 mA
- 0-10 V

Digital:
- 24 bit Binary
- 25 bit Binary
- 24 bit Gray
- 25 bit Gray

ELECTRONIC CONNECTIONS

The 6 or 7 pin M16 male connector is located on the back of the transducer.
Straight female connectors are included in the package:
- 6 pin female connector for analog signals
- 7 pin female connector for SSI digital signals

90° female connectors are available upon request

For other types of connectors or outputs, please contact Cabol Fluid Engineering

Position transducers from other manufacturers are available upon request; please contact Cabol Fluid Engineering

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MANAGEMENT SYSTEM CERTIFICATION ACCREDIA