

DENISON HYDRAULICS

Seat Valve Cartridges C1D, C1C

2/2-Way Function / Cavity according to DIN 24342



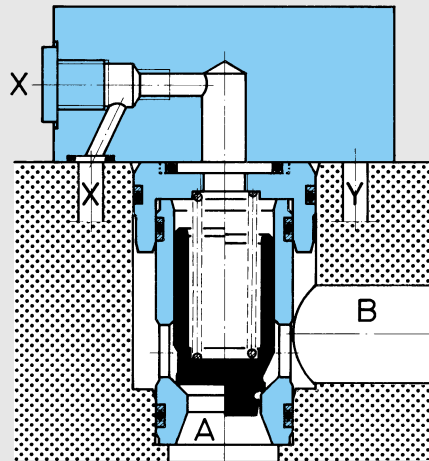
Publ. 7-EN 5050-A, replaces 7-EN 505-B

DENISON Hydraulics

FEATURES, DESCRIPTION

FEATURES

- Spools with or without damping.
- Three area ratios.
- Five spring options for cracking pressure.
- Only one sleeve necessary for all spools within one cartridge size.
- Control covers:
 - for direct operation,
 - to mount a directional valve CETOP 03/05,
 - with internal shuttle valve,
 - with stroke limiter,
 - with stroke limiter and shuttle valve,
 - with end position control inclusive amplifier.



Example: Cartridge with control cover for direct operation

DESCRIPTION

DENISON is pacemaker in the so-called cartridge principle and has more than 30 years experience in this technics.

2-Way cartridges are hydraulically operated seat valves and are designed for especially compact manifold constructions. The basic element is the seat valve consisting of the sleeve, the spool – with or without damping –, the spring, the ring and the seals. The complete cartridge (power component) is mounted in a manifold cavity according to DIN 24342 and is completed with a control cover. The cover includes all necessary pilot passages respectively connecting ports and depending on the function, stroke limiter or a shuttle valve.

All components are interchangeable with poppets and sleeves to give the desired function.

Manufacturing processes are closely controlled and every unit is factory tested.

OPERATION

OPERATION

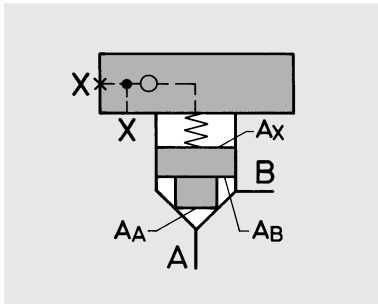
2-Way seat valves are hydraulically operated poppet type cartridges designed to control flow direction either from port A→B or vice versa. An important function is the area ratio of the seat area A_A to the pilot area A_X .

The valve opens if the active force on areas A_A or A_B exceeds the force on area A_X which operates in the closed direction. The pilot pressure on area A_X operates via cover control devices and pilot lines.

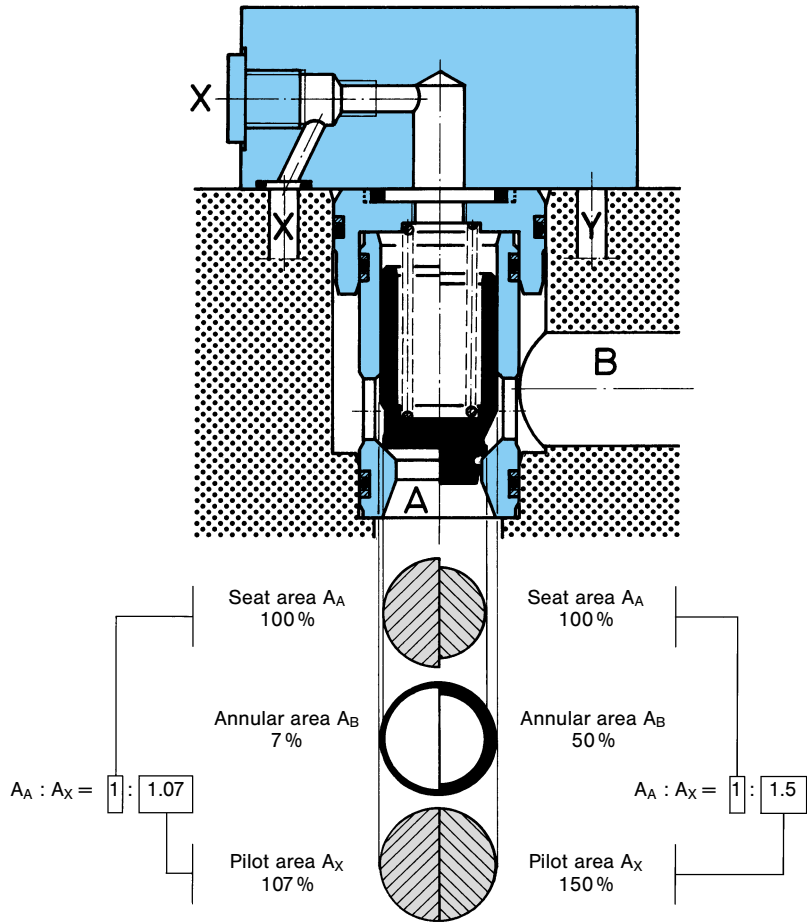
By correct combination of spool, sleeve, spring, orifice and a suitable control device the valve operates to the desired requirements, as for instance fast or slow operating, leakproof stop. Consequently moving masses e.g. cylinders or hydraulic motors can be softly braked to stop.

Whilst the valve is opening, acceleration follows immediately. The time normally necessary to overcome overlap in conventional spool valves is eliminated. Therefore machine cycle times may be reduced.

SIZES 16...50



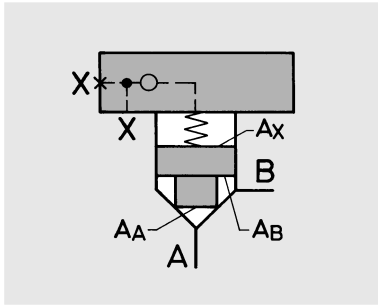
- A = Working port
- B = Working port
- X = Pilot port
- Y = Drain port



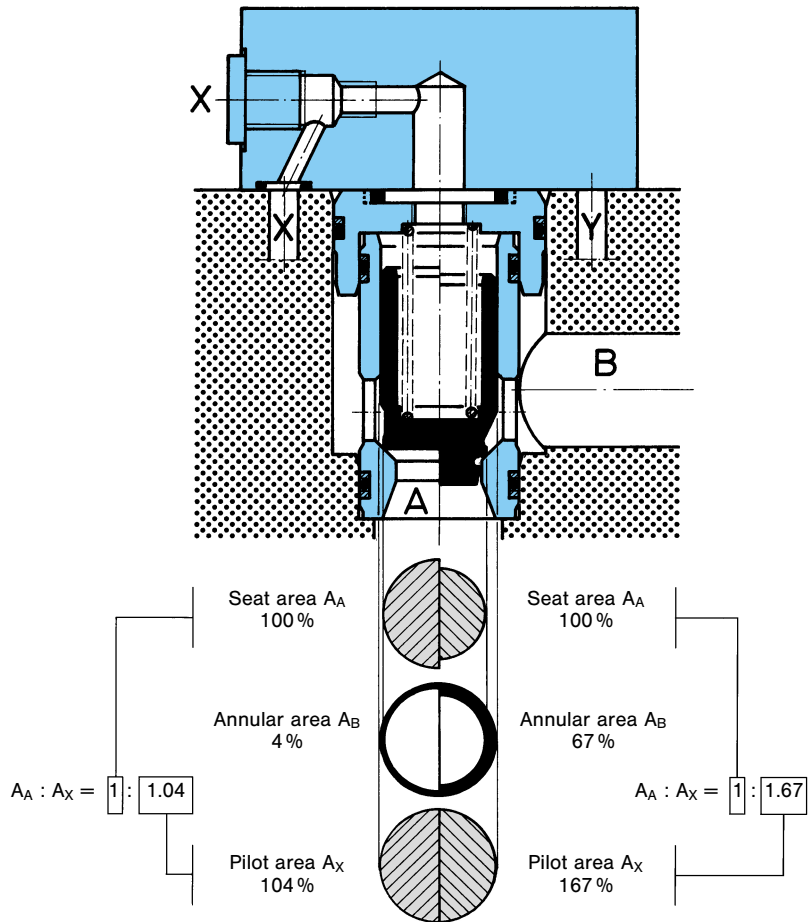
Active areas				Size 16	Size 25	Size 32	Size 40	Size 50
Seat area	$i = 1 : 1$	AA	cm ²	2.27	4.91	8.04	12.56	19.60
	$i = 1 : 1.07$	AA	cm ²	2.12	4.60	7.50	11.74	18.30
	$i = 1 : 1.5$	AA	cm ²	1.51	3.30	5.50	8.37	13.10
Annular area	$i = 1 : 1.07$	AB	cm ²	0.15	0.31	0.54	0.82	1.30
	$i = 1 : 1.5$	AB	cm ²	0.76	1.61	2.54	4.19	6.50
Pilot area		AX	cm ²	2.27	4.91	8.04	12.56	19.60
Stroke (without damping)		h	mm	7	8	9	12	16
Stroke (with damping)		h	mm	7	10	12	16	20

OPERATION

SIZES 63...100



A = Working port
 B = Working port
 X = Pilot port
 Y = Drain port



Active areas				Size 63	Size 80	Size 100
Seat area	$i = 1 : 1$	AA	cm ²	43.01	67.93	103.87
	$i = 1 : 1.04$	AA	cm ²	40.96	-	-
	$i = 1 : 1.67$	AA	cm ²	27.39	43.27	66.16
Annular area	$i = 1 : 1.04$	AB	cm ²	2.05	-	-
	$i = 1 : 1.67$	AB	cm ²	15.62	24.66	33.71
Pilot area		AX	cm ²	43.01	67.93	103.87
Stroke	Area ratio 01	h	mm	18	28	33
	Area ratio 02	h	mm	18	-	-
	Area ratio 03	h	mm	22	28	35
	Area ratio 13	h	mm	26	32	40

TECHNICAL DATA

GENERAL

• Type of unit	Seat valve
• Design	Poppet type
• Type of mounting	Manifold cavity DIN 24342
• Port sizes	NG16, NG25, NG32, NG40, NG50, NG63, NG80, NG100
• Mounting position	Optional
• Direction of flow	A-B or B-A
• Ambient temperature range	-20...+80 °C
• Suitability for special working conditions	Consult DENISON

HYDRAULIC CHARACTERISTICS

• Operating pressure range			...350 bar (315 bar for versions with 4D02)							
– ports A, B, X, Z1, Z2			according to system tank pressure							
– port Y										
• Fluid temperature range			-18...+80 °C							
• Viscosity range			10...650 cSt							
• Recommended operating viscosity			30 cSt							
			NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
• Nominal flow at Δp 3 bar	l/min		150	310	500	950	1700	2850	4200	6600
• Max. flow	l/min		200	400	750	1250	2500	4000	6000	10000

TYPE OF ACTUATOR

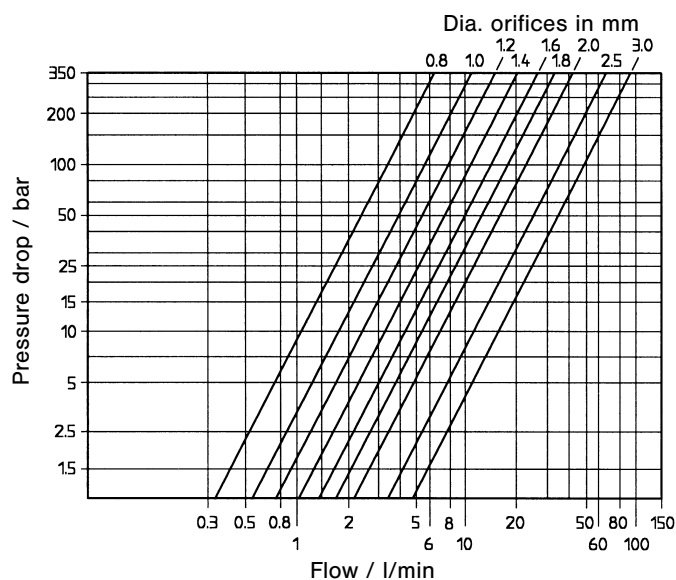
• Hydraulically			...350 bar (315 bar for versions with 4D02)							
• Pilot pressure										
• Area ratio $A_A : A_x$			1 : 1 (NG16...100) 1 : 1.07 (NG16...50) 1 : 1.5 (NG16...50) 1 : 1.04 (NG63) 1 : 1.67 (NG63...100)							
			NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
• Pilot volume										
– Area ratio 01, 02 ¹⁾	cm ³		1.6	3.8	7.2	15.1	31.4	77.4	190.1	342.6
– Area ratio 03, 43 ²⁾	cm ³		1.6	3.8	7.2	15.1	31.4	94.6	190.1	363.4
– Area ratio 12 ²⁾ , 13	cm ³		1.6	4.9	9.6	20.1	39.3	111.8	217.3	415.3
• Pilot flow to close in 100 ms:										
– Area ratio 01, 02 ¹⁾	l/min		0.96	2.28	4.32	9.06	18.84	46.43	114.06	205.56
– Area ratio 03, 43 ²⁾	l/min		0.96	2.28	4.32	9.06	18.84	56.74	114.06	218.01
– Area ratio 12 ²⁾ , 13	l/min		0.96	2.94	5.76	12.06	23.58	67.06	130.36	249.16

¹⁾ not for NG80, 100

²⁾ not for NG63, 80, 100

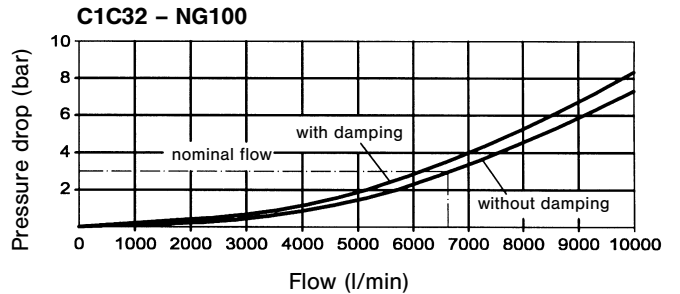
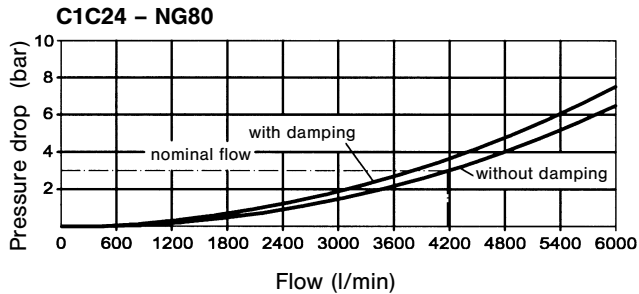
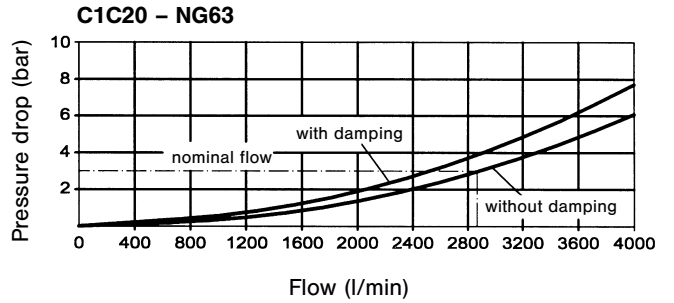
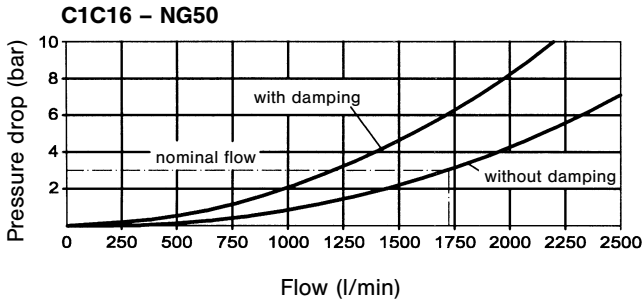
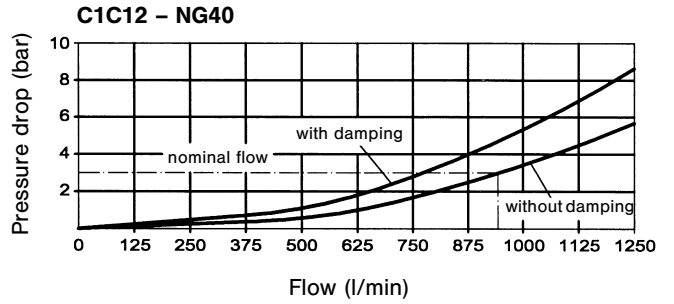
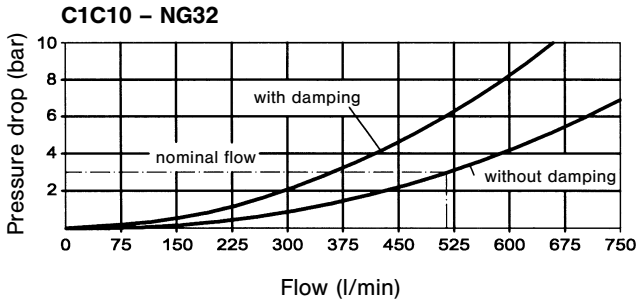
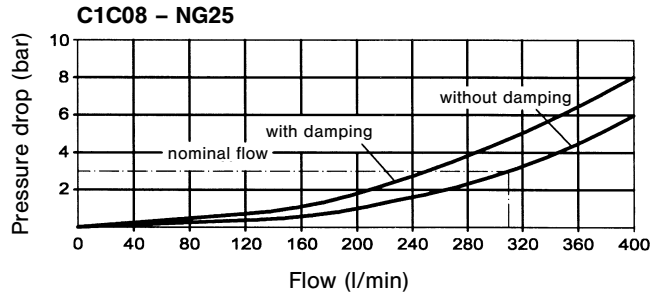
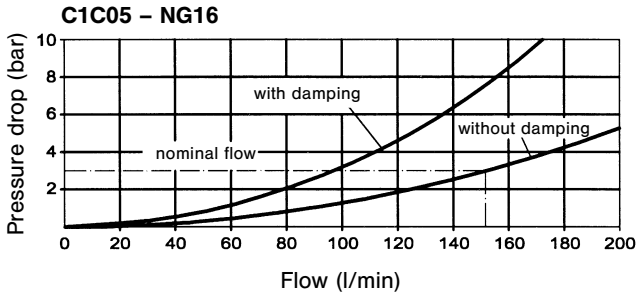
(other values to be interpolated)

ORIFICE CHARACTERISTICS (at 40 cSt and 50 °C)

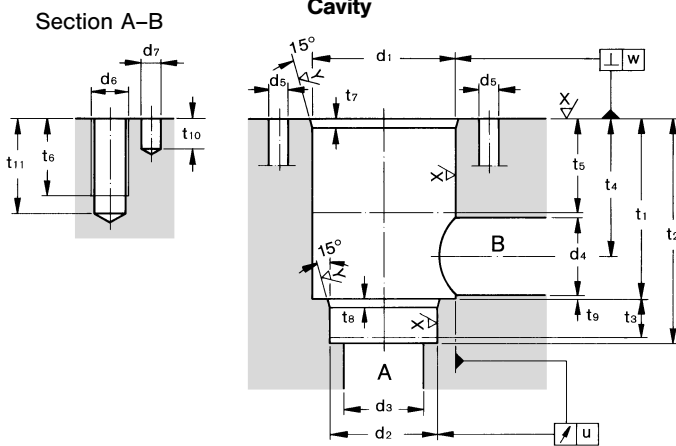


CHARACTERISTICS

Δ **p-Q-Characteristics** (at 40 cSt and 50°C) Flow A→B
without spring

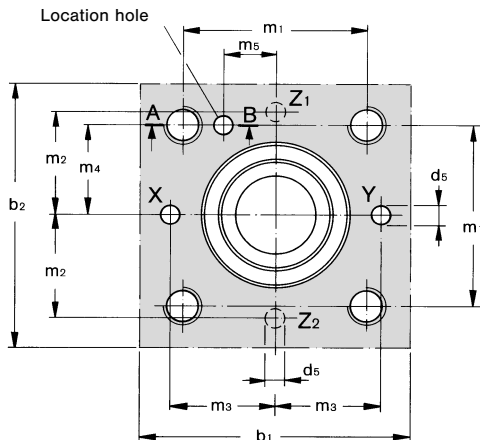


CAVITY ACCORDING TO DIN 24342 – SIZES 16... 63



$$Ra \text{ max } (\mu\text{m}) \quad \sqrt{X} = 1.6 \quad \sqrt{Y} = 2.5$$

Configuration for control cover



- A = Working port
- B = Working port
- X = Pilot port
- Y = Drain port
- Z1, Z2 = additional pilot ports
- Z1 = preferred inlet
- Z2 = preferred outlet

Dimension	Tolerance	NG16	NG25	NG32	NG40	NG50	NG63
b ₁	¹⁾	65	85	102	125	140	180
b ₂	¹⁾	65	85	102	125	140	180
d ₁	H7	32	45	60	75	90	120
d ₂	H7	25	34	45	55	68	90
d ₃		16	25	32	40	50	63
d ₄	²⁾ min.	16	25	32	40	50	63
	max.	25	32	40	50	63	80
d ₅	³⁾ max.	4	6	8	10	10	12
d ₆		M8	M12	M16	M20	M20	M30
d ₇	H13	4	6	6	6	8	8
m ₁	± 0.2	46	58	70	85	100	125
m ₂	± 0.2	25	33	41	50	58	75
m ₃	± 0.2	25	33	41	50	58	75
m ₄	± 0.2	23	29	35	42.5	50	62.5
m ₅	± 0.2	10.5	16	17	23	30	38
t ₁	⁰ + 0.1	43	58	70	87	100	130
t ₂	⁰ + 0.1	56	72	85	105	122	155
t ₃	⁵⁾	11	12	13	15	17	20
t ₄	²⁾ d ₄ min.	34	44	52	64	72	95
	d ₄ max.	29.5	40.5	48	59	65.5	86.5
t ₅	⁵⁾	20	30	30	30	35	40
t ₆	⁴⁾	20	25	35	45	45	65
t ₇		2	2.5	2.5	3	4	4
t ₈		2	2.5	2.5	3	3	4
t ₉	min.	0.5	1.0	1.5	2.5	2.5	3
t ₁₀	min.	10	10	10	10	10	10
t ₁₁	⁴⁾ max.	25	31	42	53	53	75
u		0.03	0.03	0.03	0.05	0.05	0.05
w		0.05	0.05	0.1	0.1	0.1	0.2

¹⁾ Cover parts (adjusting devices, pilot heads) can exceed dimension b₁ and b₂.

²⁾ Port B can vary around the centre line of port A.

Note:
Holes for mounting screws and pilot oil must not be damaged.

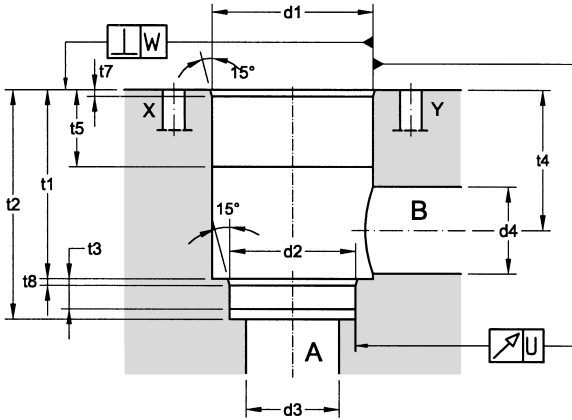
³⁾ Drilling depth and drilling angle of pilot ports are related to circuitry and arrangement of valves within the manifold.

⁴⁾ Recommended depth of screw (minimum) for cast iron is dia. of thread times 1.25.

⁵⁾ Close-tolerances work depth.

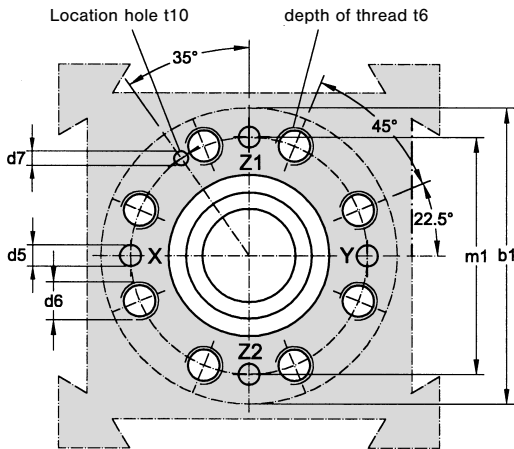
CAVITY ACCORDING TO DIN 24342 – SIZES 80... 100

Cavity



$$Ra \text{ max } (\mu\text{m}) \quad \sqrt{X} = 1.6 \quad \sqrt{Y} = 2.5$$

Configuration for control cover



- A = Working port
- B = Working port
- X = Pilot port
- Y = Drain port
- Z1, Z2 = additional pilot ports
- Z1 = preferred inlet
- Z2 = preferred outlet

Dimension	Tolerance	NG80	NG100
b_1 ¹⁾		250	300
d_1	H7	145	180
d_2	H7	110	135
d_3		80	100
d_4 ²⁾	min.	80	100
	max.	100	125
d_5 ³⁾	max.	16	20
d_6		M24	M30
d_7	H13	10	10
m_1	± 0.2	200	245
t_1	$\begin{matrix} 0 \\ +0.1 \end{matrix}$	175	210
t_2	$\begin{matrix} 0 \\ +0.1 \end{matrix}$	205	245
t_3 ⁵⁾		25	29
t_4		130	155
t_4 at d_4 max.		120	142
t_5 ⁵⁾		40	50
t_6 ⁴⁾		50	63
t_7		5	5
t_8		5	5
t_{10}		10	10
u		0.05	0.05
w		0.2	0.2

¹⁾ Cover parts (adjusting devices, pilot heads) can exceed dimension b_1 and b_2 .

²⁾ Port B can vary around the centre line of port A.

Note:

Holes for mounting screws and pilot oil must not be damaged.

³⁾ Drilling depth and drilling angle of pilot ports are related to circuitry and arrangement of valves within the manifold.

⁴⁾ Recommended depth of screw (minimum) for cast iron is dia. of thread times 1.25.

⁵⁾ Close-tolerances work depth.

ORDERING CODE – CARTRIDGE – SIZES 16...50

Model Number:

C1D **..** - **..** - **.** - **A** **.**

1 2 3 4 5 6

1 Series _____

2 Size _____
 05 = NG16
 08 = NG25
 10 = NG32
 12 = NG40
 16 = NG50

3 Area Ratios $A_A : A_X$ _____
 01 = 1 : 1
 02 = 1 : 1.07
 03 = 1 : 1.50
 12 = 1 : 1.07 } with damping
 13 = 1 : 1.50 }
 43 = 1 : 1.50 (only for end position control)

4 Cracking Pressure (bar) _____

	$A_A : A_X = 1 : 1$		$A_A : A_X = 1 : 1.07$		$A_A : A_X = 1 : 1.50$	
	A→B	B→A	A→B	B→A	A→B	B→A
1 =	0.33	5.00	0.36	5.00	0.50	10.00
2 =	0.66	10.20	0.71	10.20	1.00	20.00
3 =	1.67	22.50	1.79	22.50	2.50	50.00
4 =	2.34	35.80	2.51	35.80	3.50	70.00
5 =	3.34	51.10	3.58	51.10	5.00	100.00
6 =	4.00	-	-	-	-	-

Note: for end position control only code 4

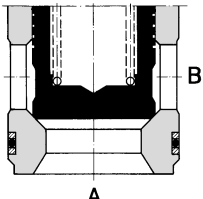
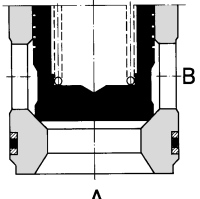
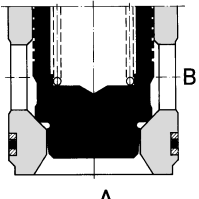
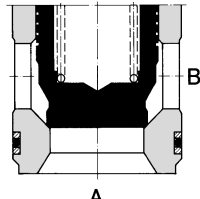
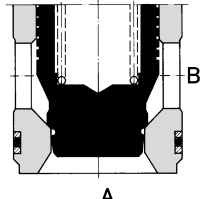
5 Design Letter _____

6 Seal Class _____
 1 = NBR (Buna N) Standard
 4 = EPDM
 5 = FPM (Viton®)

Weight – Cartridge

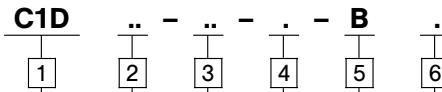
C1D05	0.2 kg
C1D08	0.4 kg
C1D10	1.0 kg
C1D12	2.0 kg
C1D16	3.6 kg

Spool / Sleeve combinations

$A_A : A_X = 1 : 1$	$A_A : A_X = 1 : 1.07$		$A_A : A_X = 1 : 1.50$	
without damping	without damping	with damping	without damping	with damping
				

ORDERING CODE – CARTRIDGE – SIZES 63... 100

Model Number:



1 Series _____

2 Size _____
 20 = NG63
 24 = NG80
 32 = NG100

3 Area Ratios $A_A : A_X$ _____
 01 = 1 : 1
 02 = 1 : 1.04 (only for NG63)
 03 = 1 : 1.67
 13 = 1 : 1.67 with damping

4 Cracking Pressure (bar) _____

	$A_A : A_X = 1 : 1$	$A_A : A_X = 1 : 1.04$	$A_A : A_X = 1 : 1.67$	
	A→B	A→B	A→B	B→A
A =	0.50	0.52	0.85	1.25
B =	1.60	1.67	2.70	4.00
C =	4.00	4.17	6.60	10.00

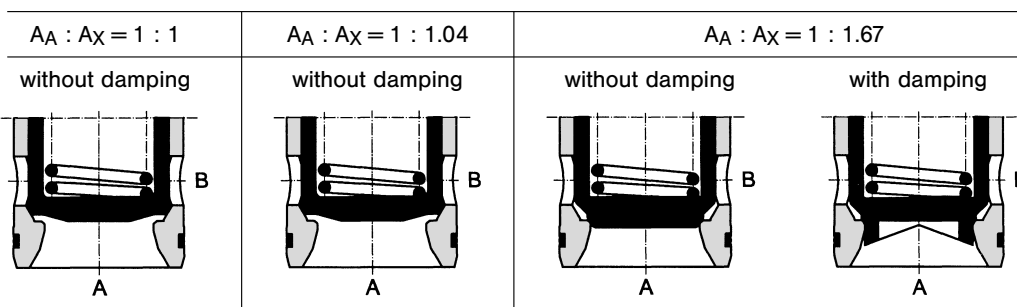
5 Design Letter _____

6 Seal Class _____
 1 = NBR (Buna N) Standard
 5 = FPM (Viton®)

Weight – Cartridge

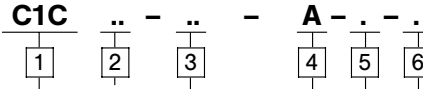
C1D20	6.2 kg
C1D24	10.9 kg
C1D32	16.0 kg

Spool / Sleeve combinations



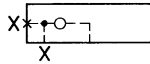
ORDERING CODE – CONTROL COVER SIZES 16... 50

Model Number:



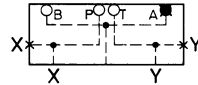
- 1 **Series** _____
- 2 **Cover Size** _____
 05 = NG16 12 = NG40
 08 = NG25 16 = NG50
 10 = NG32
- 3 **Control Cover** _____

02 = for direct operation



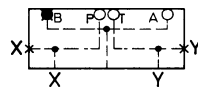
To mount a 4/2-directional valve:

1) 03 = CETOP 03 valve (4D01) – plug in „A“

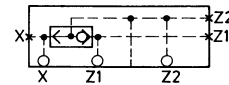


To mount a 4/2-directional valve:

1) 04 = CETOP 03 valve (4D01) – plug in „B“

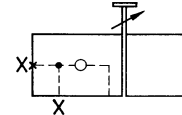


08 = with internal shuttle valve



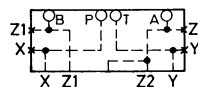
With stroke limiter:

10 = with hand knob



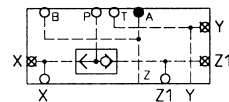
To mount a directional valve:

1) 13 = CETOP 03 valve (4D01)



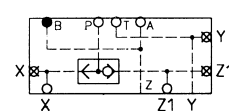
To mount a 4/2-directional valve:

15 = CETOP 03 valve (4D01) – plug in „A“
(with internal shuttle valve)



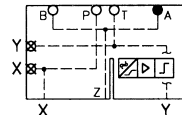
To mount a 4/2-directional valve:

16 = CETOP 03 valve (4D01) – plug in „B“
(with internal shuttle valve)



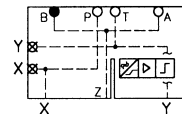
To mount a 4/2-directional valve:

17 = CETOP 03 valve (4D01) – plug in „A“
(with position control with amplifier)

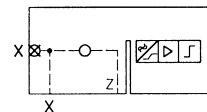


To mount a 4/2-directional valve:

18 = CETOP 03 valve (4D01) – plug in „B“
(with position control with amplifier)



19 = for direct operation and
position control with amplifier



Orifice Positions	for cover
X**	02, 10, 19
X**-Z1**-Z2**	08
A**-P **-T **	04, 18
B**-P **-T **	03, 17
A**-B **-P **-T**	13
B**-P **-T **-X**-Z1**	15
A**-P **-T **-X**-Z1**	16

Orifice Size

- 00 = without
- 08 = 0.8 mm
- 10 = 1.0 mm
- 12 = 1.2 mm
- 14 = 1.4 mm
- 16 = 1.6 mm
- 18 = 1.8 mm
- 20 = 2.0 mm
- 25 = 2.5 mm
- 30 = 3.0 mm

5 Seal Class

- 1 = NBR (Buna N) Standard
- 4 = EPDM
- 5 = FPM (Viton®)

4 Design Letter

1) not for NG16

ORDERING CODE – CONTROL COVER SIZES 63...100

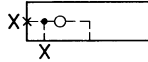
Model Number:

C1C **B**

1 2 3 4 5 6

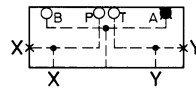
- 1 **Series** _____
- 2 **Cover Size** _____
- 3 **Control Cover** _____

02 = for direct operation



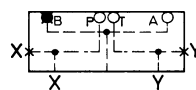
To mount a 4/2-directional valve:

05 = CETOP 05 valve (4D02) – plug in „A“



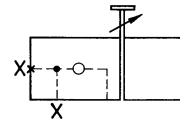
To mount a 4/2-directional valve:

06 = CETOP 05 valve (4D02) – plug in „B“



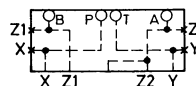
With stroke limiter:

09 = with set screw



To mount a directional valve:

14 = CETOP 05 valve (4D02)



Orifice Positions	for cover
X**	02, 09
A**-P**-T**	06
B**-P**-T**	05
A**-B**-P**-T**	14

Orifice Size

- 00 = without
- 08 = 0.8 mm
- 10 = 1.0 mm
- 12 = 1.2 mm
- 14 = 1.4 mm
- 16 = 1.6 mm
- 18 = 1.8 mm
- 20 = 2.0 mm
- 25 = 2.5 mm
- 30 = 3.0 mm

5 **Seal Class**

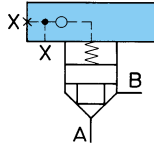
- 1 = NBR (Buna N) Standard
- 4 = EPDM
- 5 = FPM (Viton®)

4 **Design Letter**

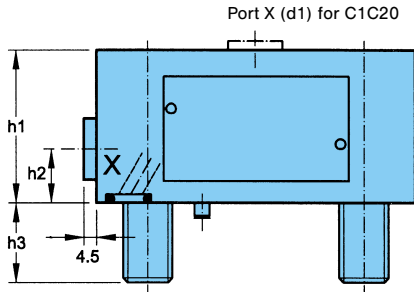
CONTROL COVER WITH OR WITHOUT REMOTE CONTROL PORT

NG16 – NG25 – NG32 – NG40 – NG50 – NG63 – NG80 – NG100

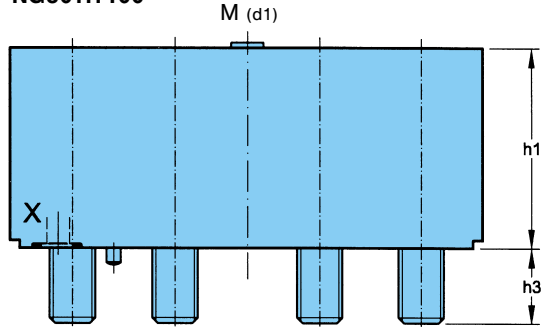
Model Number: C1C**-02-**-*-X**



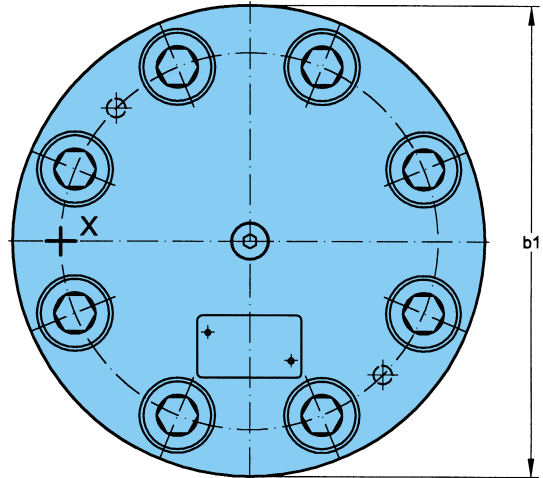
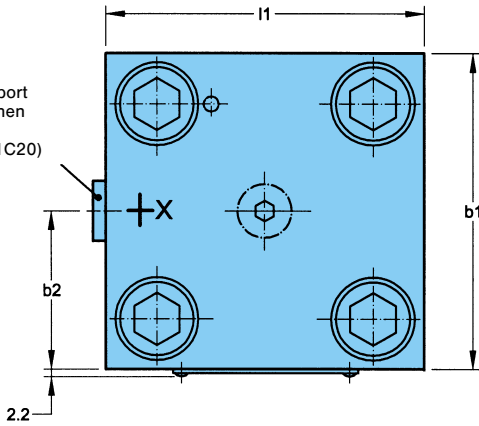
NG16...63



NG80...100



Port X (d1)
optional
threaded port
(closed when
supplied)
(not for C1C20)



Dimensions

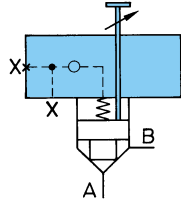
	C1C05 NG16	C1C08 NG25	C1C10 NG32	C1C12 NG40	C1C16 NG50	C1C20 NG63	C1C24 NG80	C1C32 NG100
l ₁	65	85	102	125	140	180	–	–
b ₁	65	85	102	125	140	180	∅ 250	∅ 300
b ₂	32.5	42.5	51	62.5	70	90	–	–
h ₁	35	40	50	60	68	85	105	120
h ₂	13	20	18	24	25	40	–	–
h ₃	14	18	27	31	33	50	40	50
d ₁	G 1/8"	G 1/4"	G 1/4"	G 1/2"	G 1/2"	G 1/4"	G 1/4"	G 1/4"
Weight	1.2 kg	2 kg	4 kg	7.4 kg	10.5 kg	15.5 kg	34 kg	58 kg

Note: Cover mounting screws are included in cover order (details see page 23).

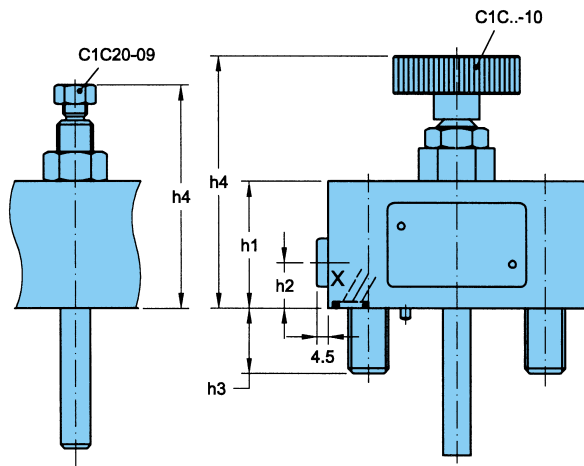
CONTROL COVER WITH STROKE LIMITER, WITH REMOTE CONTROL PORT

NG16 – NG25 – NG32 – NG40 – NG50 – NG63 – NG80 – NG100

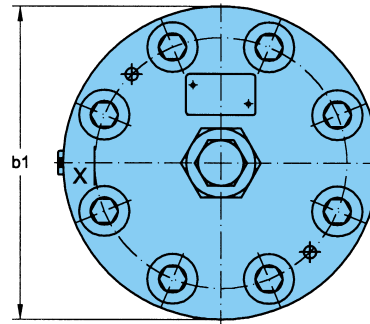
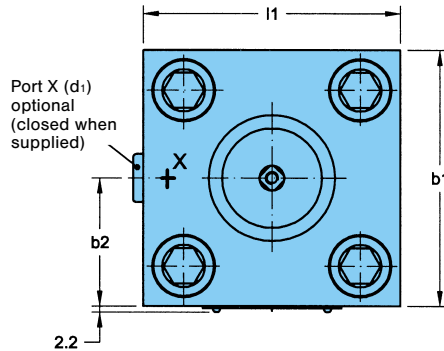
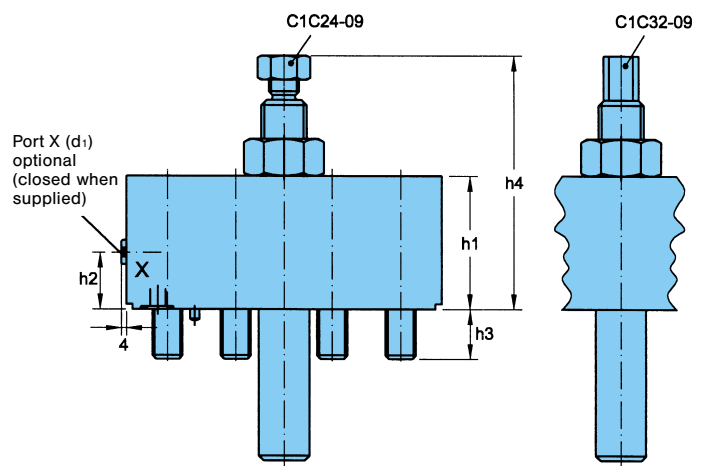
Model Number for NG16... 50: C1C**-10-A-*-*X**
for NG63... 100: C1C**-09-B-*-*X**



NG16...63



NG80...100



Dimensions

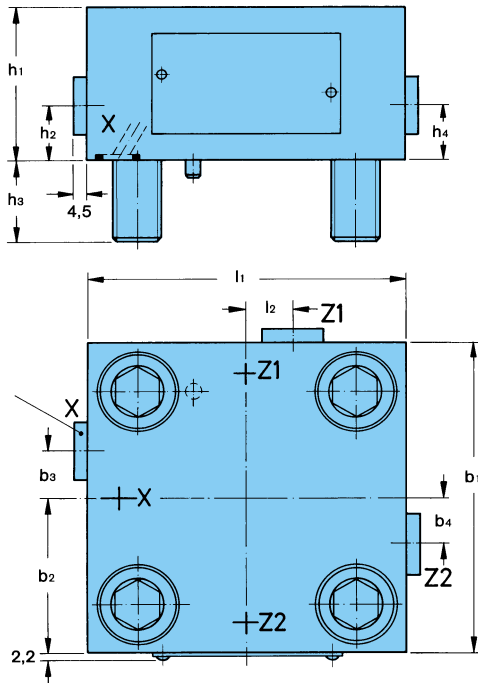
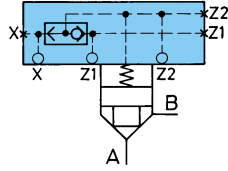
	C1C05 NG16	C1C08 NG25	C1C10 NG32	C1C12 NG40	C1C16 NG50	C1C20 NG63	C1C24 NG80	C1C32 NG100
l_1	65	85	102	125	140	180	–	–
b_1	65	85	102	125	140	180	∅ 250	∅ 300
b_2	32.5	42.5	51	62.5	70	90	–	–
h_1	35	40	50	60	68	85	105	120
h_2	13	20	18	24	25	45	45	84
h_3	14	18	27	31	33	40	40	50
h_4 max.	87	95	107	124	144	150	200	240
d_1	G 1/8"	G 1/4"	G 1/4"	G 1/2"	G 1/2"	G 1/4"	G 1/4"	G 1/4"
d_2	∅ 50	∅ 50	∅ 50	∅ 50	∅ 63	–	–	–
Weight	1.3 kg	2.2 kg	4.3 kg	7.8 kg	11 kg	15.1 kg	34 kg	60 kg

Note: Cover mounting screws are included in cover order (details see page 23).

CONTROL COVER WITH INTERNAL SHUTTLE VALVE

NG16 – NG25 – NG32 – NG40 – NG50

Model Number: C1C-08-A*-X**-Z1**-Z2****



Dimensions

	C1C05 NG16	C1C08 NG25	C1C10 NG32	C1C12 NG40	C1C16 NG50
l ₁	65	85	102	125	140
l ₂	9	12.5	15	17.5	20
b ₁	65	85	102	125	140
b ₂	32.5	42.5	51	62.5	70
b ₃	0	12.5	15	17.5	20
b ₄	9	12.5	15	17.5	20
h ₁	35	40	50	60	68
h ₂	13	20	18	22	30
h ₃	14	18	27	31	33
h ₄	13	15	18	22	38
d ₁	G 1/8"	G 1/4"	G 1/4"	G 1/2"	G 1/2"
Weight	1.2 kg	2 kg	4 kg	7.4 kg	10.5 kg

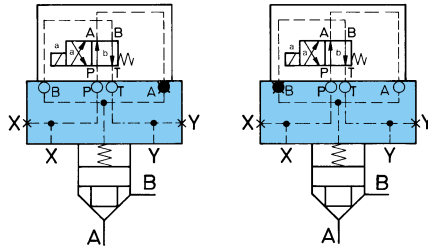
Note:

Cover mounting screws are included in cover order (details see page 23).

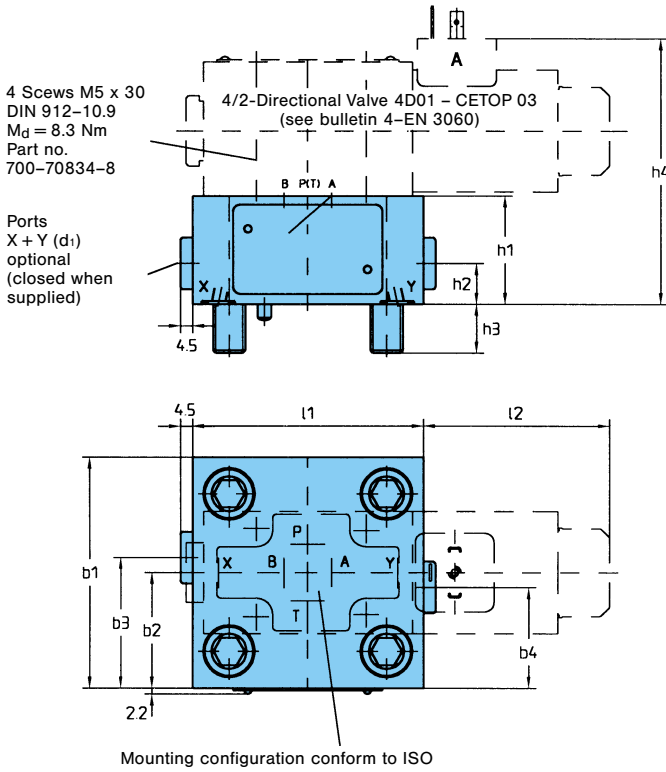
CONTROL COVER WITHOUT PORTS Z1, Z2

NG25 – NG32 – NG40 – NG50

to mount a 4/2-Directional Valve CETOP 03



Model Number: C1C** - | 03-A*-B**-P**-T** | 04-A*-A**-P**-T** |



Dimensions

	C1C08 NG25	C1C10 NG32	C1C12 NG40	C1C16 NG50
l_1	85	102	125	140
l_2	AC 57 DC 69	AC 48 DC 60	AC 36 DC 49	AC 29 DC 41
b_1	85	102	125	140
b_2	42.5	51	62.5	70
b_3	48	56.5	72	79.5
b_4	37	45.5	53	60.5
h_1	40	50	60	68
h_2	15	18	38	30
h_3	23	27	31	33
h_4	92	102	112	120
d_1	G 1/4"	G 1/4"	G 1/2"	G 1/2"
Weight	2 kg	4 kg	7.4 kg	10.5 kg

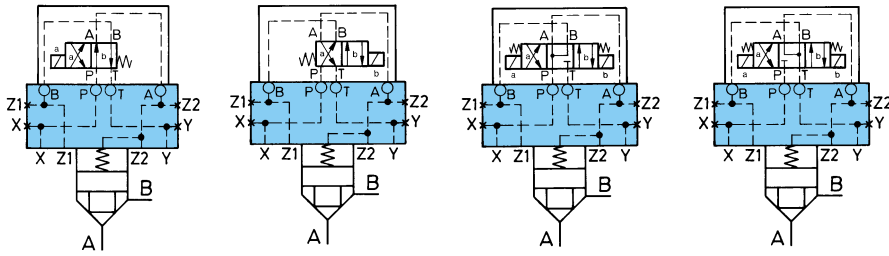
Note:

Cover mounting screws are included in cover order (details see page 23).

CONTROL COVER WITH PORTS Z1, Z2

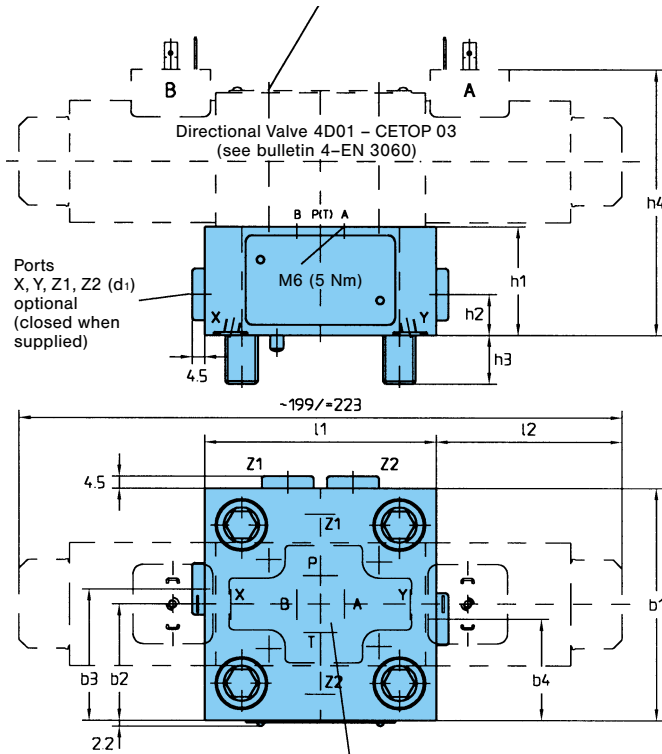
NG25 – NG32 – NG40 – NG50

to mount a Directional Valve CETOP 03



Model Number: C1C**-13-A*-A**-B**-P**-T**

4 Screws M5 x 30
DIN 912-10.9
Md = 8.3 Nm
Part no. 700-70834-8



Dimensions

	C1C08 NG25	C1C10 NG32	C1C12 NG40	C1C16 NG50
l ₁	85	102	125	140
l ₂	AC 57 DC 69	AC 48 DC 60	AC 36 DC 49	AC 29 DC 41
b ₁	85	102	125	140
b ₂	42.5	51	62.5	70
b ₃	48	56.5	72	79.5
b ₄	37	45.5	53	60.5
h ₁	40	50	60	68
h ₂	15	18	38	30
h ₃	23	27	31	33
h ₄	92	102	112	120
d ₁	G 1/4"	G 1/4"	G 1/2"	G 1/2"
Weight	2 kg	4 kg	7.4 kg	10.5 kg

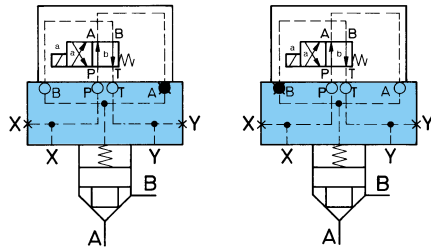
Note:

Cover mounting screws are included in cover order (details see page 23).

CONTROL COVER WITHOUT PORTS Z1, Z2

NG63 – NG80 – NG100

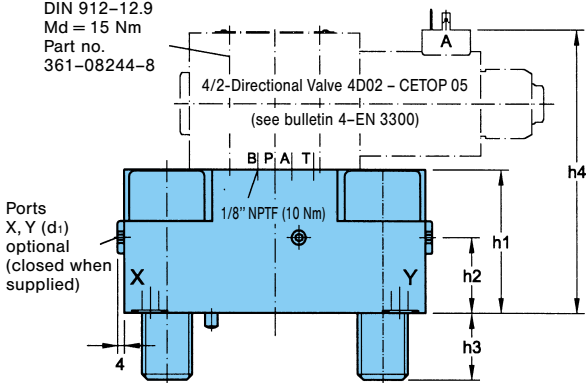
to mount a 4/2-Directional Valve CETOP 05



Model Number: C1C*- | 05-B*-B**-P**-T** | 06-B*-A**-P**-T** |

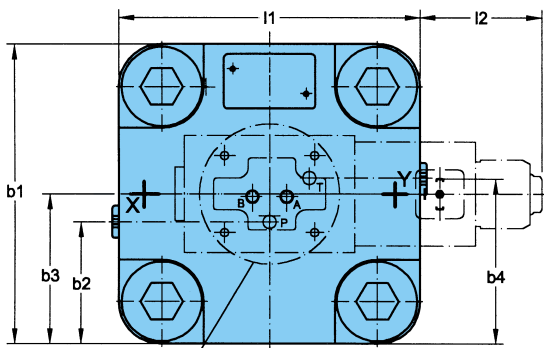
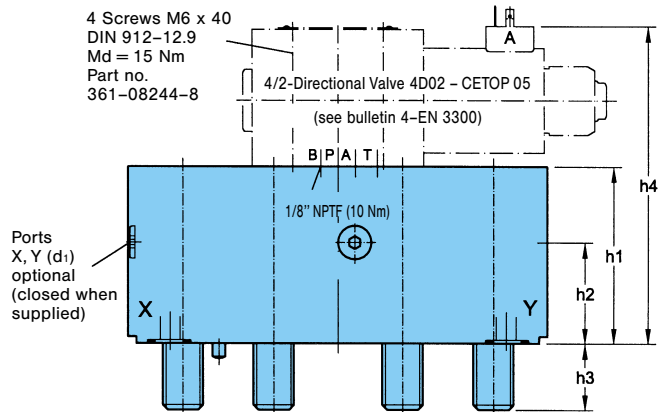
NG63

4 Screws M6 x 40
DIN 912-12.9
Md = 15 Nm
Part no.
361-08244-8

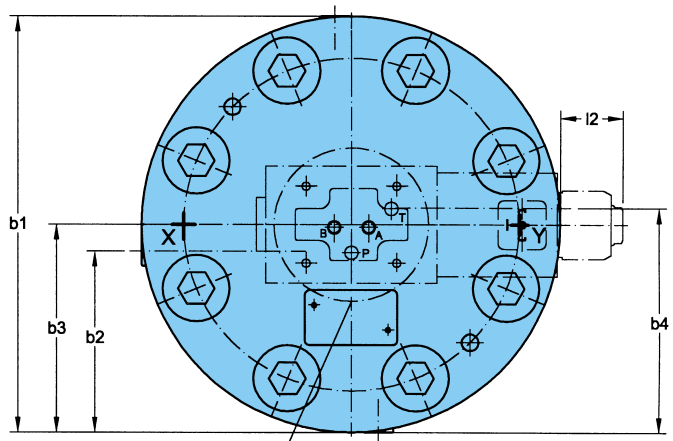


NG80...100

4 Screws M6 x 40
DIN 912-12.9
Md = 15 Nm
Part no.
361-08244-8



Mounting configuration conform to ISO



Mounting configuration conform to ISO

Note: Cover mounting screws are included in cover order (details see page 23).

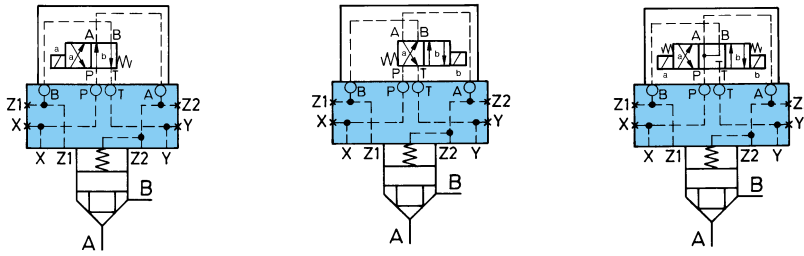
Dimensions

	l1	l2	b1	b2	b3	b4	h1	h2	h3	h4	d1	Weight
C1C20 NG63	180	73	180	74	90	99	85	45	40	168	G 1/4"	15.3 kg
C1C24 NG80	-	38	250	109	125	135	105	60	40	188	G 1/4"	34 kg
C1C32 NG100	-	13	300	131	150	160	120	75	50	183	G 1/4"	60 kg

CONTROL COVER WITH PORTS Z1, Z2

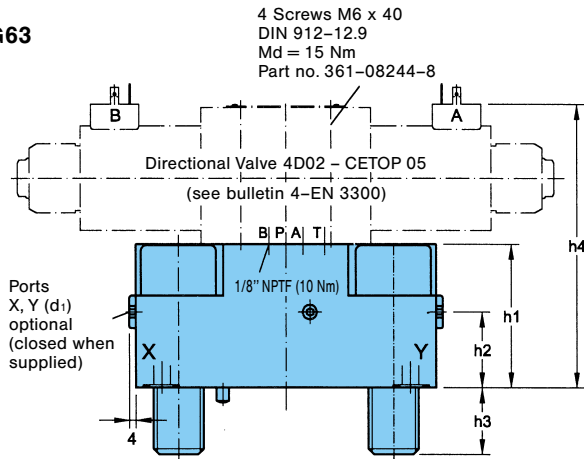
NG63 – NG80 – NG100

to mount a Directional Valve CETOP 05

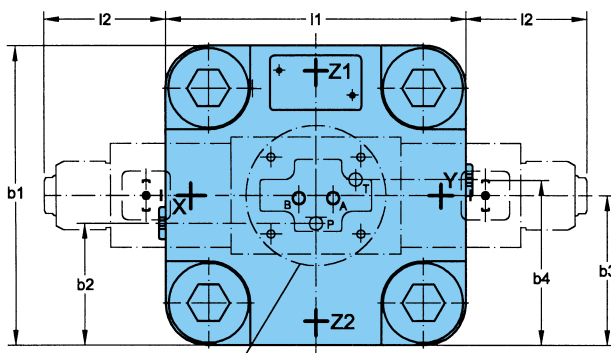
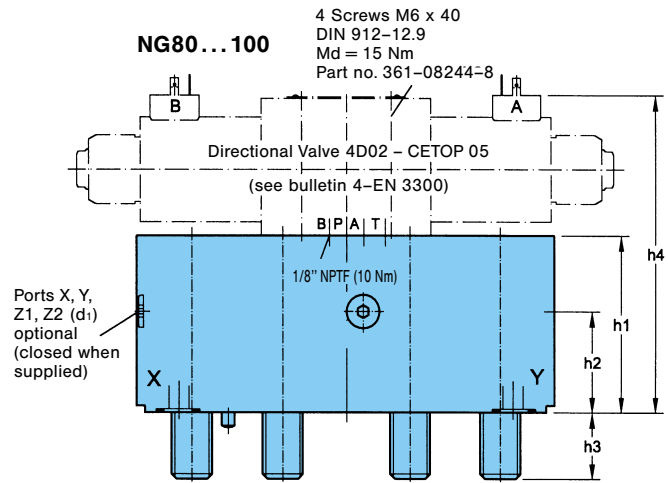


Model Number: C1C**–14–B*–A**–B**–P**–T**

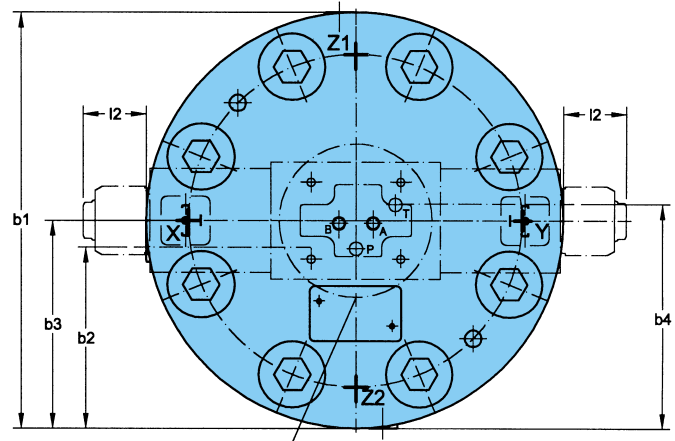
NG63



NG80...100



Mounting configuration conform to ISO



Mounting configuration conform to ISO

Note: Cover mounting screws are included in cover order (details see page 23).

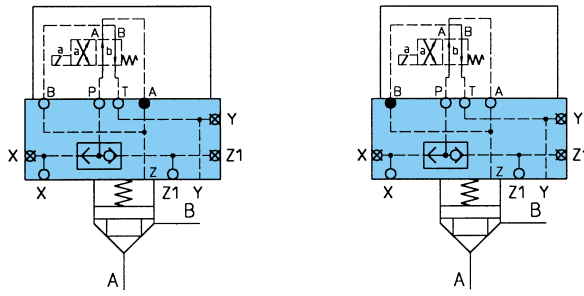
Dimensions

	l1	l2	b1	b2	b3	b4	h1	h2	h3	h4	d1	Weight
C1C20 NG63	180	73	180	74	90	99	85	45	40	168	G 1/4"	15.3 kg
C1C24 NG80	–	38	250	109	125	135	105	60	40	188	G 1/4"	34 kg
C1C32 NG100	–	13	300	131	150	160	120	75	50	183	G 1/4"	60 kg

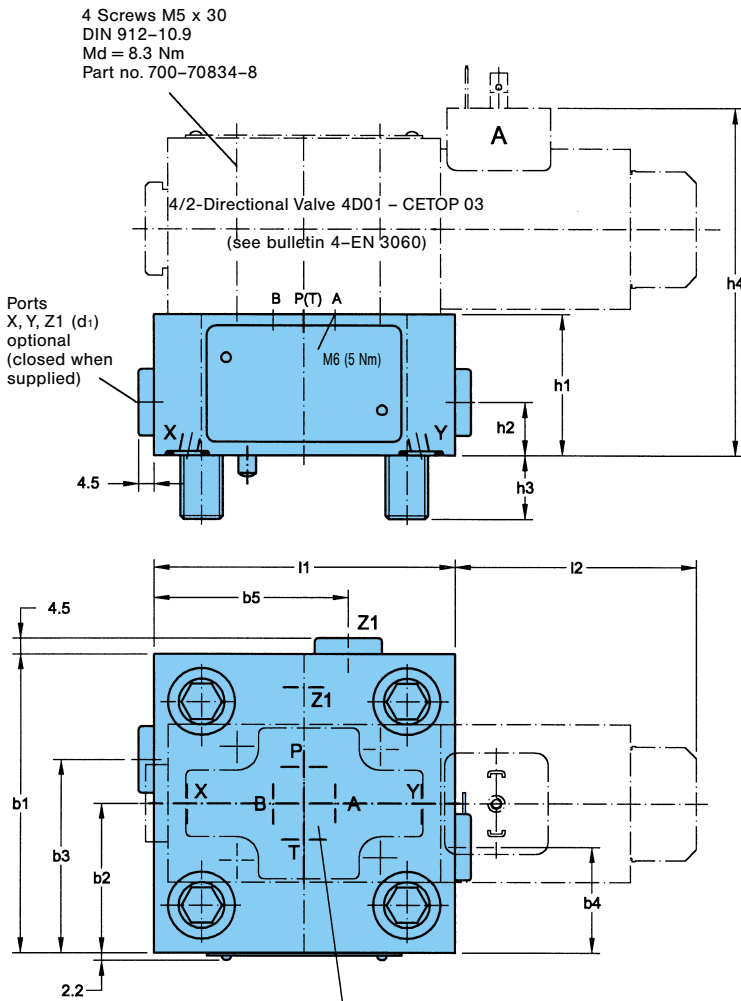
CONTROL COVER WITH INTERNAL SHUTTLE VALVE

NG16 – NG25 – NG32 – NG40 – NG50

to mount a 4/2-Directional Valve CETOP 03



Model Number: C1C** - | 15-A*-B**-P**-T**-X**-Z1** | 16-A*-A**-P**-T**-X**-Z1** |



Dimensions

	C1C05 NG16	C1C08 NG25	C1C10 NG32	C1C12 NG40	C1C16 NG50
l ₁	80	85	102	125	140
l ₂	AC 60 DC 72	AC 57 DC 69	AC 48 DC 60	AC 36 DC 49	AC 29 DC 41
l ₃	47.5	55	64	73	85
b ₁	65	85	102	125	140
b ₂	32.5	42.5	51	62.5	70
b ₃	45	55	64	73	85
b ₄	32.5	30	39	52	55
h ₁	35	40	50	60	68
h ₂	22	15	15	36	40
h ₃	14	23	27	31	33
h ₄	85	92	102	112	120
d ₁	G 1/4"	G 1/4"	G 1/4"	G 1/2"	G 1/2"
Weight	1.3 kg	2 kg	4 kg	7.4 kg	10.5 kg

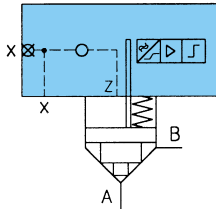
Note:

Cover mounting screws are included in cover order (details see page 23).

CONTROL COVER WITH END POSITION CONTROL (CLOSED VALVE POSITION)

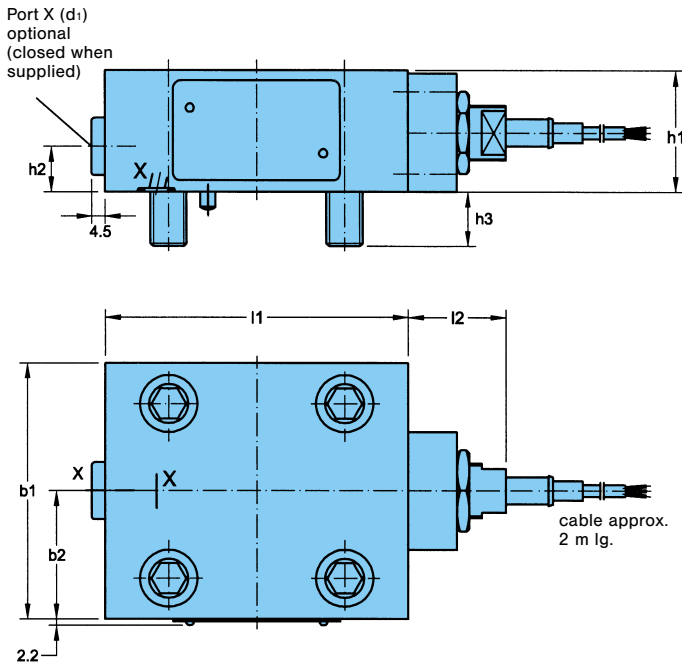
by proximity switch (incl. amplifier). Valve open: proximity switch damped.
This proximity switch is pressure proof and has no wearing parts.

NG16 – NG25 – NG32 – NG40 – NG50



Model Number: C1C**–19–A*–X**

Note: End position control only in combination with cartridge C1D**–43–4–A*



Dimensions

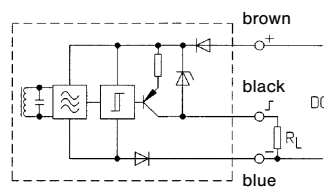
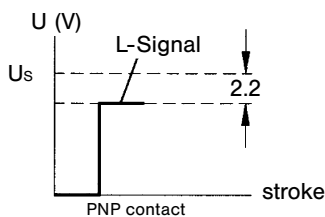
	C1C05 NG16	C1C08 NG25	C1C10 NG32	C1C12 NG40	C1C16 NG50
l ₁	80	100	102	125	140
l ₂	32	32	32	20	12
b ₁	65	85	102	125	140
b ₂	32.5	42.5	51	62.5	70
h ₁	40	40	50	60	68
h ₂	20	20	25	30	30
h ₃	14	23	27	31	33
d ₁	G 1/4"	G 1/4"	G 1/4"	G 1/2"	G 1/2"
Weight	1.5 kg	2.6 kg	4.3 kg	7.8 kg	11 kg

Note:

Cover mounting screws are included in cover order (details see page 23).

Technical Data (Proximity switch):

Function: PNP, Contact
 Supply voltage U_S: 10 ... 30 VDC
 Supply voltage ripple: ≤ 10 %
 Current consumption: max. 8 mA
 Residual voltage L-Signal: U_S – 2.2 V at I_{max}
 Output current (I): ≤ 200 mA
 Type of protection: IP 67
 Ambient temperature: –25 ... + 70 °C
 Wire cross-section area: 3 x 0.5 mm²

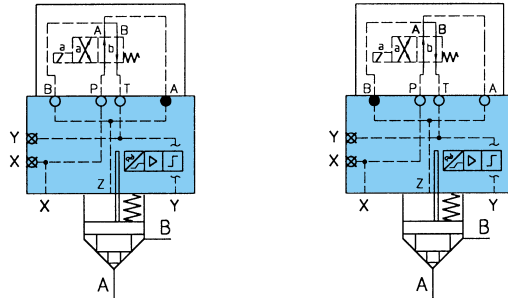


CONTROL COVER WITH END POSITION CONTROL (CLOSED VALVE POSITION)

by proximity switch (incl. amplifier). Valve open: proximity switch damped.
This proximity switch is pressure proof and has no wearing parts.

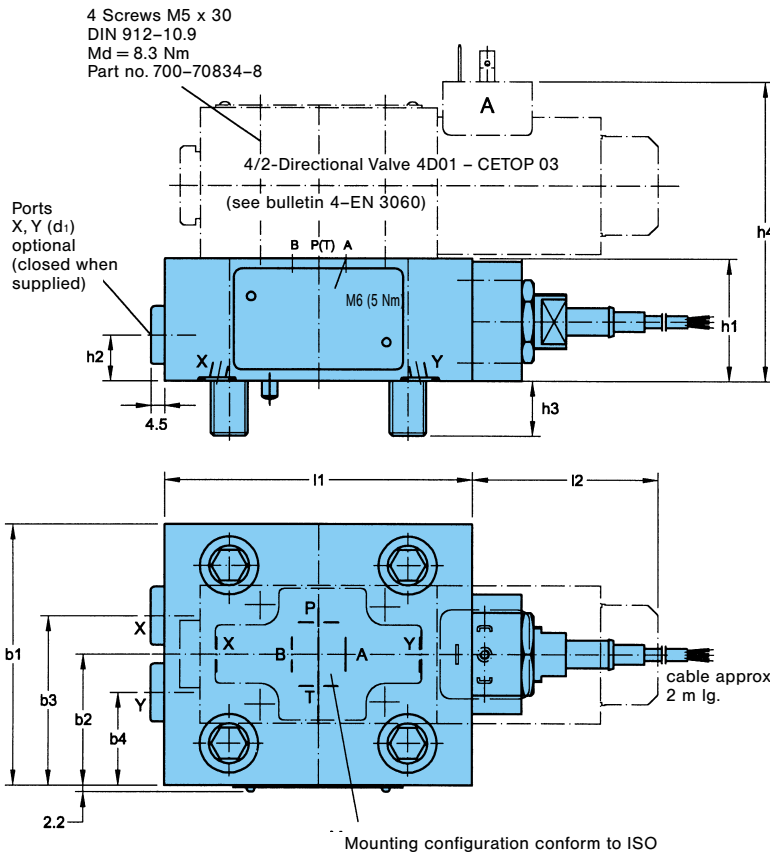
to mount a 4/2-Directional Valve CETOP 03

NG16 – NG25 – NG32 – NG40 – NG50



Model Number: C1C** – | 17-A*-B**-P**-T** | 18-A*-A**-P**-T**

Note: End position control only in combination with cartridge C1D**-43-4-A*



Dimensions

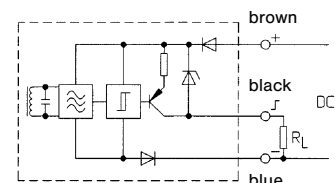
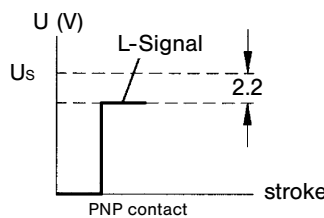
	C1C05 NG16	C1C08 NG25	C1C10 NG32	C1C12 NG40	C1C16 NG50
l_1	80	100	102	125	140
l_2	AC 60 DC 72	AC 60 DC 72	AC 48 DC 60	AC 36 DC 49	AC 29 DC 41
b_1	65	85	102	125	140
b_2	32.5	42.5	51	62.5	70
b_3	40.5	53	63	74	85
b_4	20	28	39	51	55
h_1	40	40	50	60	68
h_2	12	15	20	25	30
h_3	14	23	27	31	33
h_4	85	92	102	112	120
d_1	G 1/4"	G 1/4"	G 1/4"	G 1/2"	G 1/2"
Weight	1.6 kg	2.6 kg	4.3 kg	7.8 kg	11 kg

Note:

Cover mounting screws are included in cover order (details see page 23).

Technical Data (Proximity switch):

Function: PNP, Contact
 Supply voltage U_S : 10 ... 30 VDC
 Supply voltage ripple: $\leq 10\%$
 Current consumption: max. 8 mA
 Residual voltage L-Signal: $U_S - 2.2$ V at I_{max}
 Output current (I): ≤ 200 mA
 Type of protection: IP 67
 Ambient temperature: $-25 \dots +70$ °C
 Wire cross-section area: 3×0.5 mm²



COVER MOUNTING SCREWS

Cover Mounting Screws (DIN 912–12.9)

Series	C1C05	C1C08	C1C10	C1C12	C1C16	C1C20	C1C24	C1C32
Size	NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
Qty.	4	4	4	4	4	4	8	8
Dimension	M8 x 40	M12 x 45	M16 x 60	M20 x 70	M20 x 80	M30 x 100	M24 x 120	M30 x 140
Torque (Nm)	35	130	330	640	640	1900	950	1900

The product described is subject to continual development and the manufacturer reserves the right to change the specifications without notice.