C*

Size 03, 04, 06, 10

Technical Features

- Wide range of coil voltages
- Wide range of connectors and electrical connection options
- Easy replacement of coil solenoids
- The coils can be rotated and the required connector direction can be adjusted
- High resistance of coils against mechanical damage
- Coils supplied with AC current, fitted with integrated rectifier
- Coils with protection against possible damage due to induced voltage (Transil)

Technical Data

Quantity	Unit	Value			
Nominal voltage	V	see Ordering code			
Allowable voltage fluctuation		U_N ±10 %, if not stated otherwise in the valve datasheet			
Nominal and max. current	A	see the table of coil types			
Winding resistance at 20 °C*	Ω	see the table of coil types			
Input power of coil at 20 °C	W	by calculation $P = U^2 / R$			
Max. ambient temperature	°C (°F)	50 (122), if not stated otherwise in the datasheet			
Operation conditions		see the datasheets of individual types of valves			
Max. winding temperature	°C (°F)	155 (311)			
Approximate weight of the coils	Coil size	C14	C19	C22	C31
	kg (lbs)	0.13 (0.29)	0.22 (0.48)	0.35 (0.77)	0.96 (2.12)

	Datasheet	Type
General information	GI_0060	products and general conditions
Connectors	K_8008	connectors EN 175301-803-A

*The nominal resistance R20 (measured at 20 °C) of the coil winding may fluctuate within ±7 % of the nominal value due to used coil winding technology.

Product Description

Valves designed for a change of fluid direction, such as directional control valves and poppet-type valves, are often solenoid operated. Proportional valves are another large group controlling continuously parameters in the circuit within the defined interval. Electric current flowing through the coil winding creates a magnetic field. This field acts on the armature of the solenoid part and allows its shift which is then transferred to the valve control element (spool, poppet). The excitation winding made of copper wire placed on a plastic core is the basis. The coil is inserted into the steel housing amplifying the magnetic field and to protect it against mechanical damage. Moreover, the coil is molded into the housing by plastic material.
The connector part coupled with the coil is also made of the same plastic. A silicone seal protects the coil space against moisture and dust.

Coil Electrical Parameters

Nominal voltages and nominal resistances (resistance value at 20°C) are listed in the coil ordering codes. Nominal currents (coils for switching valves) and maximum permissible currents (coils for proportional valves) are listed in the type table. The coils are designed for DC power supply. For AC supply, a coil with built-in rectifier or a plug-in rectifier must be used.

In operation, the output power of coils is influenced both by keeping the given values of power supply and the operation conditions. Temperature rise of the winding causes an increase in its electrical resistance when exceeding operation conditions. This reduces both current flowing through the winding and generated magnetomotive force, thus magnetic field strength is also decreased. Hydraulic power of the solenoid operated valve is also decreased in an appropriate manner.

Protection of Control Electronics

A coil is an inductive load in an electrical circuit. Any change in the current flowing through a coil (e.g. when switching off the coil circuit), voltage is induced according to Lenz's law and opposes the change that produced it. This poses a damage risk to the control electronics. Especially for proportional valves, it is appropriate to use a coil with an integrated quenching diode - or transient-voltage-suppression diode (e.g. Transil). Transil is a proven and reliable semiconductor element connected in parallel to the coil. If the threshold voltage is exceeded, electric current starts to flow through it, thereby converting overvoltage energy to heat.

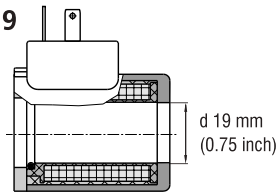
Quick disconnect

Induced voltage originating from a quick disconnect of the coil has according to Lenz's law a negative effect on OFF switching time regarding the solenoid armature. Special electronic circuit suppresses this unwanted phenomenon.

Coil sizes

Coil size	Diameter d [mm (inch)]	Valve size	Directional valves with housing		Cartridge valves		Proportional valves		
			High performance	Lightline	High performance	Lightline	Directional valves		Pressure
C14	13.4 (0.53)	Dn 03	RPEK1-03	RPEL1-04		SD2E-Ax/L SD3E-A2/L		SD3P-A2/H	SP4P1-B4
C19	19.0 (0.75)	Dn 04	RPE2-04 RPE3-04	RPEL2-06	SD2E-Ax/H SD3E-A2/H SD1E-A2 SD1E-A3 ROE3 SR1E2-A2 SR4E2-B2 SR4E2-C2 SP4E1-B3	SD2E-B*/L SD3E-B2/L	PRM2-04 PRM7-04	SD3P-B2/H	SR1P2-A2 SRN1P1-A2 SR4P2-B2 SRN4P1-B2 SP4P2-B3 SPN4P1-B3 PVRM1-063
C22	22.0 (0.87)	Dn 06	RPE3-06 RPEW4-06 RPER3-06	RPEL1-10	SD2E-B*/H SD3E-B2/H SD3E-C2/H		PRM2-06 PRMR2-06 PRM7-06 PRM8-06	SD2P-B4/H SF32P-C3/H	PVRM3-10
C31	31.0 (1.22)	Dn 10	RPE4-10 RPEW4-10				PRM6-10 PRM7-10		

Example: **C19**



For different sizes and versions of the valves, the appropriate coil sizes are used.
Size designation corresponds approximately to the inner diameter of the coil.

Connector Types

Basic connectors used to connect the power supply of the coils:

- Connector EN 175301-803-A (IP65)
- Connector AMP JUNIOR TIMER (IP67)
- Connector DEUTSCH DT04-2P (IP67 / IP69K)
- Special 2-pin connector EW designed to be slipped into the wirebox
- Loose conductors of standard length 300 mm (11.8 in)
- Loose conductors equipped with the connector at the end

Other connector types available upon agreement with the manufacturer.

EN 175301-803-A

AMP JUNIOR TIMER

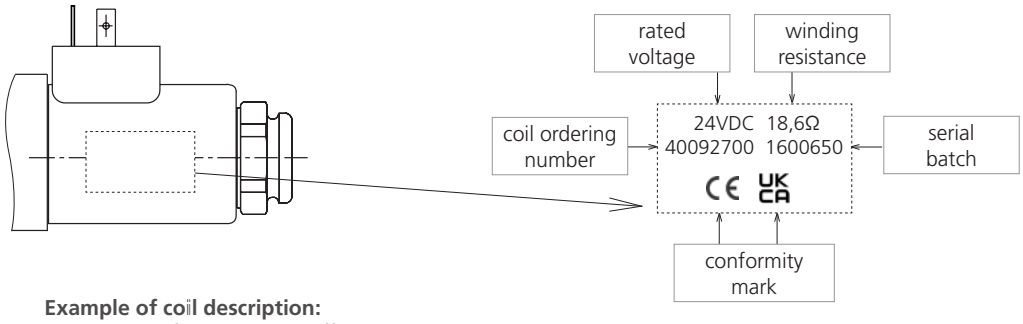
DEUTSCH DT04-2P

Connector EW

Loose Conductors

Identification of Coils

The CE and UKCA conformity mark placed on the coil steel housing indicates that the product is in accordance with the european directives and the relevant UK requirements.



Example of coil description:
Type sticker information can differ due to huge variety of coil designs.

Content

Ordering Code

C ☐☐-☐☐☐☐-☐☐☐☐/M

Solenoid coil

Coil size
inner diameter of coil

Ø 13.4 mm (0.53 in)	**14**
Ø 19.0 mm (0.75 in)	**19**
Ø 22.0 mm (0.87 in)	**22**
Ø 31.0 mm (1.22 in)	**31**

Coil housing design version

cold rolled housing	**A**
drawn housing	**B**
long drawn housing	**C**

Rated voltage (on the coil terminals)

12 V DC	**01200**
14 V DC	**01400**
24 V DC	**02400**
27 V DC	**02700**
48 V DC	**04800**
106 V DC	**10600**
205 V DC	**20500**
115 V AC 50 Hz	**11550**
120 V AC 60 Hz	**12060**
230 V AC 50 Hz	**23050**

Connector type
see the table

Special coil design

Type of insulating material

no designation	standard
H	for valves with CSA certification

Housing surface treatment

A	zinc coated, 240 h salt spray test acc. to ISO 9227
B	zinc coated, 520 h salt spray test acc. to ISO 9227

Coil detent type (for type C31 only)

N	without detent
F	with detent (by pin)

Electrical winding resistance [Ω] at 20 °C (68 °F) ± 7 %

Length of loose conductors

300	standard length 300 mm (11.8 in)
xxx	other length in mm (in)

Additional protection of conductors (only for loose conductors)

N	non-braided
B	braided

Not all possible combinations of parameters are produced as actual coils. If the required coil is not included in the table of the standard types, please contact our technical department to verify feasibility and identification of the specific type.

Note explaining usage of coils:
Coils with supply voltage 21 V DC are intended for rectified supply voltage 24 V AC / 50 Hz.
Coils with supply voltage 106 V DC are intended for rectified supply voltage 120 V AC / 60 Hz.
Coils with supply voltage 205 V DC are intended for rectified supply voltage 230 V AC / 50 Hz.
Coils 115 V AC / 50 Hz have a built-in rectifier.
Coils 120 V AC / 60 Hz have a built-in rectifier.
Coils 230 V AC / 50 Hz have a built-in rectifier.

Overview of connector types and electrical connections of coils

Connector	Designation	Description
EN 175301-803-A	E1	Connector EN 175301-803-A
	E2	Connector EN 175301-803-A + quenching diode
	E5	Connector EN 175301-803-A + integrated rectifier
	E51	Connector EN 175301-803-A + integrated rectifier + quick disconnect
AMP Junior Timer	E3	Connector AMP Junior Timer (2 pins)
	E4	Connector AMP Junior Timer (2 pins) + quenching diode
AMP Junior Timer axially oriented	E3A	Axial connector AMP Junior Timer (2 pins)
	E4A	Axial connector AMP Junior Timer (2 pins) + quenching diode
Deutsch DT04-2P axially oriented	E12A	Axial connector Deutsch DT04-2P (2 pins)
	E13A	Axial connector Deutsch DT04-2P (2 pins) + quenching diode
Loose conductors	E8	Loose conductors
	E9	Loose conductors + quenching diode
Loose conductors with connector	E10	Loose conductors with connector DT04-2P (2 pins)
	E11	Loose conductors with connector DT04-2P (2 pins) + quenching diode
	E16	Loose conductors with Metri-Pack connector, series 150 (2 pins)
	E17	Loose conductors with Metri-Pack connector, series 150 (2 pins) + quenching diode
	E18	Loose conductors with Weather-Pack connector (2 pins)
	E19	Loose conductors with Weather-Pack connector (2 pins) + quenching diode
	E20	Loose conductors with Weather-Pack connector (2 jacks)
	E21	Loose conductors with Weather-Pack connector (2 jacks) + quenching diode
	E22	Loose conductors with Econoseal connector (2 pins)
	E23	Loose conductors with Econoseal connector (2 pins) + quenching diode
	E24	Loose conductors with connector AMP Junior Timer (2 pins)
	E25	Loose conductors with connector AMP Junior Timer (2 pins) + quenching diode
Special connector for wirebox	EW1	Special connector for wirebox
	EW2	Special connector for wirebox + quenching diode

Coils C14B (d = 13.4 mm (0.53 inch))

	Ambient temperature °C (°F)	Fluid temperature °C (°F)	Supply voltage tolerance % of U_N
RPEK1-03, RPEL1-04 →	-30...+50 (-22...+122)	-30...+80 (-22...+176)	±10
SD2E-A2/L, SD2E-A3/L, SD2E-A4/L, SD3E-A2/L →	-30...+50 (-22...+122)	-30...+60 (-22...+140)	±10

Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types					
[V]	[A]	E1	E2	E3A	E4A	E12A	E13A
12 DC	1.83	**16210300** C14B-01200E1-6.55NA	**24101600** C14B-01200E2-6.55NA	**28822500** C14B-01200E3A-6.55NA	**28822600** C14B-01200E4A-6.55NA	**29268200** C14B-01200E12A-6.55NA	**29268800** C14B-01200E13A-6.55NA
14 DC	1.57	**24102200** C14B-01400E1-8.91NA	on request	**41194600** C14B-01400E3A-8.91NA	**40291000** C14B-01400E4A-8.91NA	**34948600** C14B-01400E12A-8.91NA	**40498900** C14B-01400E13A-8.91NA
24 DC	0.92	**16210400** C14B-02400E1-26.2NA	**24101800** C14B-02400E2-26.2NA	**28686400** C14B-02400E3A-26.2NA	**28822400** C14B-02400E4A-26.2NA	**29268900** C14B-02400E12A-26.2NA	**29269000** C14B-02400E13A-26.2NA
27 DC	0.80	**33565000** C14B-02700E1-33.6NA	on request	**34319700** C14B-02700E3A-33.6NA	on request	**43070900** C14B-02700E12A-33.6NA	**40648800** C14B-02700E13A-33.6NA

Surface treatment B: 520 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types					
[V]	[A]	E1	E2	E3A	E4A	E12A	E13A
12 DC	1.83	**42978200** C14B-01200E1-6.55NB	**44465700** C14B-01200E2-6,55NB	on request	on request	**32700900** C14B-01200E12A-6.55NB	on request
14 DC	1.57	on request	on request	on request	on request	**34440200** C14B-01400E12A-8.91NB	on request
24 DC	0.92	**33469800** C14B-02400E1-26.2NB	on request	**41702200** C14B-02400E3A-26.2NB	on request	**31145400** C14B-02400E12A-26.2NB	**31145500** C14B-02400E13A-26.2NB

	Ambient temperature °C (°F)	Fluid temperature °C (°F)
SP4P1-B4 →→	-30...+90 (-22...+194)	-30...+90 (-22...+194)

Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types		
[V]	[A]	E3A	E12A	E13A
12 DC	max. 0.7	**33038300** C14B-01200E3A-7.8NA	**32482500** C14B-01200E12A-7,8NA	**437442** C14B-02400E13A-29.5NA
24 DC	max.0.35	**33038400** C14B-02400E3A-29.5NA	**32482400** C14B-02400E12A-29.5NA	

Surface treatment B: 520 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types	
[V]	[A]	E3A	E12A
12 DC	max. 0.7	on request	**40933100** C14B-01200E12A-7,8NB
24 DC	max.0.35	on request	**34186400** C14B-02400E12A-29,5NB

	Ambient temperature °C (°F)	Fluid temperature °C (°F)
SD3P-A2/H →→	-30 ... +80 (-22 ... +176)	-30 ... +80 (-22 ... +176)

Surface treatment B: 520 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types				
[V]	[A]	E1	E2	E3A	E12A	E13A
12 DC	max. 0.950	**42978200** C14B-01200E1-6.55NB	**44465700** C14B-01200E2-6.5NB	on request	**32700900** C14B-01200E12A-6.55NB	on request
24 DC	max. 0.475	**33469800** C14B-02400E1-26.2NB	on request	**41702200** C14B-02400E3A-26.2NB	**31145400** C14B-02400E12A-26.2NB	**31145500** C14B-02400E13A-26.2NB

ARGO HYTOS
A Voith Company

Coils C19 (d = 19 mm (0.75 inch))

		Ambient temperature °C (°F)	Fluid temperature °C (°F)	Supply voltage tolerance % of U_N
SD2E-B2/L, SD2E-B3/L, SD2E-B4/L, SD3E-B2/L	→	-30…+50 (-22…+122)	-30…+60 (-22…+140)	±10
RPE2-04, RPE3-04, RPEL2-06, ROE3-04, ROE3-06, SR1E2-A2, SR4E2-B2, SR4E2-C2, SP4E1-B3	→	-30...+50 (-22…+122)	-30…+80 (-22…+176)	±10
SD2E-A2/H, SD2E-A3/H, SD2E-A4/Hx, SD3E-A2/H, SD1E-A2, SD1E-A3	→ limited operating conditions of the valves →	-30...+50 (-22…+122)	-30…+80 (-22…+176)	±10

Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types							
[V]	[A]	E1	E2	E3	E4	E3A	E4A	E12A	E13A
12 DC	2.45	**27316600** C19B-01200E1-4.9NA	**27631400** C19B-01200E2-4.9NA	**27330200** C19B-01200E3-4.9NA	**27631600** C19B-01200E4-4.9NA	**27449600** C19B-01200E3A-4.9NA	**27631900** C19B-01200E4A-4.9NA	**27351400** C19B-01200E12A-4.9NA	**27632000** C19B-01200E13A-4.9NA
14 DC	1.70	**27634100** C19B-01400E1-8.23NA	**27634200** C19B-01400E2-8.23NA	**27634300** C19B-01400E3-8.23NA	**27634400** C19B-01400E4-8.23NA	**27634500** C19B-01400E3A-8.23NA	**27634600** C19B-01400E4A-8.23NA	**27635000** C19B-01400E12A-8.23NA	**27635100** C19B-01400E13A-8.23NA
24 DC	1.15	**27316700** C19B-02400E1-20.8NA	**27632400** C19B-02400E2-20.8NA	**27330300** C19B-02400E3-20.8NA	**27633200** C19B-02400E4-20.8NA	**27449700** C19B-02400E3A-20.8NA	**27633400** C19B-02400E4A-20.8NA	**27330500** C19B-02400E12A-20.8NA	**27633500** C19B-02400E13A-20.8NA
27 DC	0.89	**27636100** C19B-02700E1-30.4NA	**27639400** C19B-02700E2-30.4NA	**27641600** C19B-02700E3-30.4NA	**27641700** C19B-02700E4-30.4NA	**27641800** C19B-02700E3A-30.4NA	**27642100** C19B-02700E4A-30.4NA	**27642400** C19B-02700E12A-30.4NA	**27642500** C19B-02700E13A-30.4NA
205 DC	0.12	**27382401** C19B-20500E1-1653NA	not available	not available	not available	not available	not available	not available	not available

		E5
120 AC 60 Hz	0.22	**27642700** C19B-12060E5-494NA
230 AC 50 Hz	0.12	**27668600** C19B-23050E5-2065NA

Surface treatment B: 520 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types						
[V]	[A]	E1	E2	E3	E3A	E4A	E12A	E13A
12 DC	2.45	**40134900** C19B-01200E1-4.9NB	on request	**42999500** C19B-01200E3-4.9NB	on request	**43486900** C19B-01200E4A-4.9NB	**40317600** C19B-01200E12A-4.9NB	**43930600** C19B-01200E13A-4.9NB
14 DC	1.70	**43106200** C19B-01400E1-8.23NB	on request	on request	on request	on request	**33212800** C19B-01400E12A-8.23NB	on request
24 DC	1.15	**28829600** C19B-02400E1-20.8NB	**32092500** C19B-02400E2-20.8NB	on request	**44017500** C19B-02400E3A-20.8NB	**43191500** C19B-02400E4A-20.8NB	**40384800** C19B-02400E12A-20.8NB	**31330200** C19B-02400E13A-20.8NB
27 DC	0.89	**41176700** C19B-02700E1-30.4NB	on request		**33559000** C19B-02700E3A-30.4NB	on request	on request	**40052200** C19B-02700E13A-30.4NB

RPE3-04 with CSA certification
Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types
[V]	[A]	E1
12 DC	2.41	**24140700** C19A-01200E1-4.98NAH
24 DC	1.15	**24140800** C19A-02400E1-21NAH

Coils C19 (d = 19 mm (0.75 inch))

SD2E-A2/H, SD2E-A3/H, SD2E-A4/H, SD3E-A2/H, SD1E-A2, SD1E-A3, SR4E2-B2 →

Ambient temperature °C (°F)	Fluid temperature °C (°F)	Supply voltage tolerance % of U_N
-30…+80 (-22…+176)	-30…+80 (-22…+176)	±15

Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types							
[V]	[A]	E1	E2	E3	E4	E3A	E4A	E12A	E13A
12 DC	2.00	**27669700** C19B-01200E1-6NA	**27669900** C19B-01200E2-6NA	**27670000** C19B-01200E3-6NA	**27670100** C19B-01200E4-6NA	on request	on request	**32829300** C19B-01200E12A-6NA	**29871300** C19B-01200E13A-6NA
14 DC	1.70	**27634100** C19B-01400E1-8,23NA	**27634200** C19B-01400E2-8,23NA	**27634300** C19B-01400E3-8,23NA	**27634400** C19B-01400E4-8,23NA	**27634500** C19B-01400E3A-8,23NA	**27634600** C19B-01400E4A-8,23NA	**27635000** C19B-01400E12A-8,23NA	**27635100** C19B-01400E13A-8.23NA
24 DC	0.93	**27670600** C19B-02400E1-25.75NA	**27670700** C19B-02400E2-25.75NA	**27670800** C19B-02400E3-25.75NA	**27670900** C19B-02400E4-25.75NA	on request	**30117800** C19B-02400E4A-25.75NA	**31330000** C19B-02400E12A-25.75NA	**32801600** C19B-02400E13A-25.75NA
27 DC	0.89	**27636100** C19B-02700E1-30,4NA	**27639400** C19B-02700E2-30,4NA	**27641600** C19B-02700E3-30,4NA	**27641700** C19B-02700E4-30,4NA	**27641800** C19B-02700E3A-30,4NA	**27642100** C19B-02700E4A-30,4NA	**27642400** C19B-02700E12A-30,4NA	**27642500** C19B-02700E13A-30,4NA
205 DC	0.12	**27668700** C19B-20500E1-2065NA	not available	not available	not available	not available	not available	not available	not available

[V]	[A]	E5
120 AC 60 Hz	0.22	**27642700** C19B-12060E5-494NA
230 AC 50 Hz	0.12	**27668600** C19B-23050E5-2065NA

Surface treatment B: 520 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types			
[V]	[A]	E1	E2	E3	E12A
12 DC	2.00	**42808800** C19B-01200E1-6NB	**43195300** C19B-01200E2-6NB	on request	**40932800** C19B-01200E12A-6NB
24 DC	0.93	**30449100** C19B-02400E1-25,75NB	**41894800** C19B-02400E2-25,75NB	**33090800** C19B-02400E3-25,75NB	**40932900** C19B-02400E12A-25,75NB

SD3P-B2/H → → →

Ambient temperature °C (°F)	Fluid temperature °C (°F)
-30…+80 (-22…+176)	-30…+80 (-22…+176)

Surface treatment B: 520 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types						
[V]	[A]	E1	E2	E3	E3A	E4A	E12A	E13A
12 DC	max.1.2	**40134900** C19B-01200E1-4,9NB	on request	**42999500** C19B-01200E3-4,9NB	on request	**43486900** C19B-01200E4A-4,9NB	**40317600** C19B-01200E12A-4,9NB	**43930600** C19B-01200E13A-4,9NB
24 DC	max. 0.6	**28829600** C19B-02400E1-20,8NB	**32092500** C19B-02400E2-20,8NB	on request	**44017500** C19B-02400E3A-20,8NB	**43191500** C19B-02400E4A-20,8NB	**40384800** C19B-02400E12A-20,8NB	**31330200** C19B-02400E13A-20,8NB

Coils C19 (d = 19 mm (0.75 inch))

PRM2-04, PRM7-04 →→

Ambient temperature °C (°F)	Fluid temperature °C (°F)
30 ...+50 (-22 ...+122)	-30…+80 (-22…+176)

PRM2-04 proportional directional control valves without integrated electronic unit
Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types						
[V]	[A]	E1	E2	E3	E4	E3A	E12A	E13A
12 DC	max. 1.7	**27821900** C19B-01200E1-4.68NA	on request	**27822000** C19B-01200E3-4.68NA	**27785600** C19B-01200E4-4.68NA	**31688600** C19B-01200E3A-4.68NA	**27821200** C19B-01200E12A-4.68NA	on request
24 DC	max. 0.8	**27824200** C19B-02400E1-20.6NA	**27824300** C19B-02400E2-20.6NA	**28145200** C19B-02400E3-20.6NA	**27824400** C19B-02400E4-20.6NA	**31891300** C19B-02400E3A-20.6NA	**30754900** C19B-02400E12A-20.6NA	**29868600** C19B-02400E13A-20.6NA

Surface treatment B: 520 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types					
[V]	[A]	E1	E2	E3	E3A	E12A	E13A
24 DC	max. 0.8	**40406400** C19B-02400E1-20.6NB	**43664000** C19B-02400E2-20.6NB	**31805200** C19B-02400E3-20.6NB	**42284300** C19B-02400E3A-20.6NB	**31805300** C19B-02400E12A-20,6NB	**40457400** C19B-02400E13A-20.6NB

PRM2-04, PRM7-04 proportional directional control valves with integrated electronic unit
Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types			
[V]	[A]	E1	E2	E3	E4
12 DC	max. 1.7	**16186100** C19A-01200E1-4.98NA	**16191600** C19A-01200E2-4.98NA	**16191100** C19A-01200E3-4.98NA	**16191300** C19A-01200E4-4.98NA
24 DC	max. 0.8	**16186200** C19A-02400E1-21NA	**16191700** C19A-02400E2-21NA	**16191200** C19A-02400E3-21NA	**16191400** C19A-02400E4-21NA

SR1P2-A2, SRN1P1-A2, SR4P2-B2, SRN4P1-B2, SP4P2-B3, SPN4P1-B3 →→

Ambient temperature °C (°F)	Fluid temperature °C (°F)
-30…+80 (-22…+176)	-30…+120 (-22…+248)

Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types						
[V]	[A]	E1	E2	E3	E4	E3A	E12A	E13A
12 DC	max. 1	**28145500** C19B-01200E1-6.5NA	**28145600** C19B-01200E2-6.5NA	**28145700** C19B-01200E3-6.5NA	**28145800** C19B-01200E4-6.5 NA	**33793600** C19B-01200E3A-6.5NA	**28184900** C19B-01200E12A-6.5NA	**29867600** C19B-01200E13A-6.5 NA
24 DC	max. 0,6	**27824200** C19B-02400E1-20.6NA	**27824300** C19B-02400E2-20.6NA	**28145200** C19B-02400E3-20.6NA	**27824400** C19B-02400E4-20.6 NA	**31891300** C19B-02400E3A-20.6NA	**30754900** C19B-02400E12A-20.6NA	**29868600** C19B-02400E13A-20.6 NA

Coils C19 (d = 19 mm (0.75 inch))

SR1P2-A2, SRN1P1-A2, SR4P2-B2, SRN4P1-B2, SP4P2-B3, SPN4P1-B3 →→

Ambient temperature °C (°F)	Fluid temperature °C (°F)
-30…+80 (-22…+176)	-30…+120 (-22…+248)

Surface treatment B: 520 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types					
[V]	[A]	E1	E2	E3	E3A	E12A	E13A
12 DC	max.1	**40406300** C19B-01200E1-6.5NB	on request	on request	on request	**40406200** C19B-01200E12A-6.5NB	on request
24 DC	max. 0.6	**40406400** C19B-02400E1-20.6NB	**43664000** C19B-02400E2-20.6NB	**31805200** C19B-02400E3-20.6NB	**42284300** C19B-02400E3A-20.6NB	**31805300** C19B-02400E12A-20.6NB	**40457400** C19B-02400E13A-20.6NB

PVRM1-063 →→

Ambient temperature °C (°F)	Fluid temperature °C (°F)
-30…+90 (-22…+194)	-30…+90 (-22…+194)

Surface treatment A: 240 h salt spray test acc. to ISO 9227
Max. reduced pressure 20 bar (290 PSI)

Voltage	Current	Connector types
[V]	[A]	E13A
12 DC	max. 1	**27821300** C19B-01200E13A-6.85NA

Surface treatment A: 240 h salt spray test acc. to ISO 9227 - Max. reduced pressure 32 bar (470 PSI)

Spannung	Strom	Steckertypen					
[V]	[A]	E1	E3	E3A	E4	E12A	E13A
12 DC	max. 1.5	**27821900** C19B-01200E1-4,68NA	**27822000** C19B-01200E3-4,68NA	**31688600** C19B-01200E3A-4,68NA	**27785600** C19B-01200E4-4,68NA	**27821200** C19B-01200E12A-4,68NA	**29869000** C19B-01200E13A-4,68NA

Surface treatment B: 520 h salt spray test acc. to ISO 9227 - Max. reduced pressure 32 bar (470 PSI)

[V]	[A]	E1	E3	E3A	E4	E12A	E13A
12 DC	max. 1.5	on request	on request	on request	on request	**42397200** C19B-01200E12A-4,68NB	on request

Surface treatment A: 240 h salt spray test acc. to ISO 9227 - Max. reduced pressure 20 and 32 bar (290 and 470 PSI)

Voltage	Current	Connector types						
[V]	[A]	E1	E2	E3	E3A	E4	E12A	E13A
24 DC	max. 0.75	**27824200** C19B-02400E1-20.6NA	**27824300** C19B-02400E2-20.6NA	**28145200** C19B-02400E3-20.6NA	**31891300** C19B-02400E3A-20.6NA	**27824400** C19B-02400E4-20.6NA	**30754900** C19B-02400E12A-20.6NA	**29868600** C19B-02400E13A-20.6NA

Surface treatment B: 520 h salt spray test acc. to ISO 9227 - Max. reduced pressure 20 and 32 bar (290 and 470 PSI)

Voltage	Current	Connector types					
[V]	[A]	E1	E2	E3	E3A	E12A	E13A
24 DC	max. 0.75	**40406400** C19B-02400E1-20,6NB	**43664000** C19B-02400E2-20,6NB	**31805200** C19B-02400E3-20,6NB	**42284300** C19B-02400E3A-20,6NB	**31805300** C19B-02400E12A-20,6NB	**40457400** C19B-02400E13A-20,6NB

ARGO HYTOS
A Voith Company

Coils C22 (d = 22 mm (0.87 inch))

		Ambient temperature °C (°F)	Fluid temperature °C (°F)	Supply voltage tolerance % of U_N
RPE3-06, RPER3-06, RPEL1-10	→			
SD2E-B2/H, SD2E-B3/H, SD2E-B4/H, SD3E-B2/H, SD3E-C2/H	→ limited operating conditions of the valves →	-30...+50 (-22…+122)	-30…+80 (-22…+176)	±10

Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types						
[V]	[A]	E1	E2	E3A	E4A	E5	E12A	E13A
12 DC	2.79	**16211400** C22B-01200E1-4.3NA	**24156100** C22B-01200E2-4.3NA	**24159600** C22B-01200E3A-4.3NA	**24159700** C22B-01200E4A-4.3NA	not available	**24930801** C22B-01200E12A-4.3NA	**19695100** C22B-01200E13A-4.3NA
14 DC	2.14	**24158200** C22B-01400E1-6.55NA	**24930900** C22B-01400E2-6.55NA	**27662100** C22B-01400E3A-6.55NA	**27662200** C22B-01400E4A-6.55NA	not available	**27663000** C22B-01400E12A-6.55NA	**27663100** C22B-01400E13A-6.55NA
24 DC	1.32	**16211600** C22B-02400E1-18.2NA	**24157400** C22B-02400E2-18.2NA	**24159800** C22B-02400E3A-18.2NA	**24159900** C22B-02400E4A-18.2NA	not available	**19695900** C22B-02400E12A-18.2NA	**19696000** C22B-02400E13A-18.2NA
27 DC	1.07	**16211700** C22B-02700E1-25.3NA	**24157600** C22B-02700E2-25.3NA	**19744600** C22B-02700E3A-25.3NA	**19744500** C22B-02700E4A-25.3NA	not available	**27663200** C22B-02700E12A-25.3NA	**27663300** C22B-02700E13A-25.3NA
205 DC	0.15	**16211500** C22B-20500E1-1400NA	not available	not available	not available	not available	not available	not available
230 AC 50 Hz	0.15	not available	not available	not available	not available	**18849000** C22B-23050E5-1400NA	not available	not available

Surface treatment B: 520 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types						
[V]	[A]	E1	E2	E3A	E4A	E5	E12A	E13A
12 DC	2.79	**34007700** C22B-01200E1-4.3NB	**32489000** C22B-01200E2-4.3NB	**43962500** C22B-01200E3A-4.3NB	on request	not available	**31536900** C22B-01200E12A-4.3NB	**40099400** C22B-01200E13A-4.3NB
24 DC	1.32	**24156800** C22B-02400E1-18.2NB	**32092900** C22B-02400E2-18.2NB	**24160200** C22B-02400E3A-18.2NB	**24160300** C22B-02400E4A-18.2NB	not available	**31156300** C22B-02400E12A-18.2NB	**33089500** C22B-02400E13A-18.2NB
27 DC	1.07	**33570600** C22B-02700E1-25.3NB	on request	**31802800** C22B-02700E3A-25.3NB	**44646100** C22B-02700E4A-25.3NB	not available	**31802900** C22B-02700E12A-25.3NB	on request

RPE3-06 with CSA certification
Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types	
[V]	[A]	E1	E5
12 DC	2.72	**24154300** C22A-01200E1-4.41NAH	not available
24 DC	1.29	**24154400** C22A-02400E1-18.6NAH	not available

Coils C22 (d = 22 mm (0.87 inch))

	→	Ambient temperature °C (°F)	Fluid temperature °C (°F)	Supply voltage tolerance % of U_N
RPEW4-06*		-30...+50 (-22...+122)	-30...+80 (-22...+176)	±10

RPEW4-06
Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types	
[V]	[A]	EW1	EW2
12 DC	2.64	**16205100** C22C-01200EW1-4.54NA/M	**16205400** C22C-01200EW2-4.54NA/M
24 DC	1.32	**16205000** C22C-02400EW1-18.2NA/M	**16205500** C22C-02400EW2-18.2NA/M
106 DC	0.27	**16205200** C22C-10600EW1-400NA/M	not available

RPEW4-06 with CSA certification
Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Typy konektorů	
[V]	[A]	EW1	EW2
12 DC	2.64	**24154700** C22C-01200EW1-4.54NAH/M	**24155500** C22C-01200EW2-4.54NAH/M
24 DC	1.32	**24154900** C22C-02400EW1-18.2NAH/M	**24155300** C22C-02400EW2-18.2NAH/M
106 DC	0.27	**24155100** C22C-10600EW1-400NAH/M	not available

	→	Ambient temperature °C (°F)	Fluid temperature °C (°F)	Supply voltage tolerance % of U_N
SD2E-B2/H, SD2E-B3/H, SD2E-B4/H, SD3E-B2/H, SD3E-C2/H		-30...+80 (-22...+176)	-30...+80 (-22...+176)	±15

Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types						
[V]	[A]	E1	E2	E3A	E4A	E5	E12A	E13A
12 DC	1.83	**27222400** C22B-01200E1-6.55NA	**27222500** C22B-01200E2-6.55NA	**27222600** C22B-01200E3A-6.55NA	**27222700** C22B-01200E4A-6.55NA	not available	**18815601** C22B-01200E12A-6.55NA	**19909000** C22B-01200E13A-6.55NA
24 DC	0.95	**27222800** C22B-02400E1-25.3NA	**27222900** C22B-02400E2-25.3NA	**27223000** C22B-02400E3A-25.3NA	**27223100** C22B-02400E4A-25.3NA	not available	**19909101** C22B-02400E12A-25.3NA	**19909200** C22B-02400E13A-25.3NA
205 DC	0.09	**24160100** C22B-20500E1-2353NA	not available	not available	not available	not available	not available	not available
230 AC 50 Hz	0.09	not available	not available	not available	not available	**20004200** C22B-23050E5-2353NA	not available	not available

Surface treatment B: 520 h salt spray test acc. to ISO 9227

Voltage	Current	Connector type	
[V]	[A]	E1	E13A
12 DC	1.83	**40310200** C22B-01200E12A-6,55NB	**on request**
24 DC	0.95	**30129500** C22B-02400E1-25,3NB	**33028000** C22B-02400E13A-25,3NB

ARGO HYTOS
A Voith Company

Coils C22 (d = 22 mm (0.87 inch))

SD2P-B4/H, PVRM3-10

→ →

Ambient temperature °C (°F)	Fluid temperature °C (°F)
-30 ...90 (-22 ...194), +100 (212) short time	-30 ...90 (-22 ...194), +100 (212) short time

Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types			
[V]	[A]	E1	E3A	E12A	E13A
12 DC	max. 1.5	**18838400** C22B-01200E1-5NA	**24157900** C22B-01200E3A-5NA	**18815901** C22B-01200E12A-5NA	**31323800** C22B-01200E13A-5NA
24 DC	max. 1	**18838300** C22B-02400E1-13.4NA	**19744300** C22B-02400E3A-13.4NA	**19696200** C22B-02400E12A-13.4NA	**30691600** C22B-02400E13A-13,4NA

Surface treatment B: 520 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types			
[V]	[A]	E1	E3A	E12A	E13A
12 DC	max. 1.5	on request	**41598800** C22B-01200E3A-5NB	**41256200** C22B-01200E12A-5NB	on request
24 DC	max. 1	**34184200** C22B-02400E1-13.4NB	**33288400** C22B-02400E3A-13.4NB	**40948200** C22B-02400E12A-13.4NB	**28811200** C22B-02400E13A-13.4NB

PRM2-06

→ →

Ambient temperature °C (°F)	Fluid temperature °C (°F)
30 ...+50 (-22 ...+122)	-30…+80 (-22…+176)

PRM2-06 proportional directional control valves with integrated electronic unit
Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types
[V]	[A]	E1
12 DC	max. 1.6	**16187500** C22A-01200E1-5.15NA
24 DC	max. 1	**16186800** C22A-02400E1-13.4NA

Coils C22 (d = 22 mm (0.87 inch))

	Ambient temperature °C (°F)	Fluid temperature °C (°F)
PRM2-06, PVRM2-06, PRM7-06, PRM8-06, PRMR2-06 → →	30 ...+50 (-22 ...+122)	-30…+80 (-22…+176)

PRM2-06, PRM7-06, PRM8-06 proportional directional control valves without integrated electronic unit, PRMR2-06
Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types				
[V]	[A]	E1	E3A	E4A	E12A	E13A
12 DC	max. 2.5	**18838500** C22B-01200E1-2.33NA	**19744700** C22B-01200E3A-2.33NA	on request	**19696100** C22B-01200E12A-2.33NA	**19909300** C22B-01200E13A-2.33NA
24 DC	max. 1	**18838300** C22B-02400E1-13.4NA	**19744300** C22B-02400E3A-13.4NA	**40755800** C22B-02400E4A-13.4NA	**19696200** C22B-02400E12A-13.4NA	**30691600** C22B-02400E13A-13.4NA

PRM2-06, PRM7-06, PRM8-06 proportional directional control valves without integrated electronic unit, PRMR2-06
Surface treatment B: 520 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types				
[V]	[A]	E1	E3A	E4A	E12A	E13A
12 DC	max. 2.5	**34180800** C22B-01200E1-2.33NB	**43850600** C22B-01200E3A-2,33NB	**42752300** C22B-01200E4A-2,33NB	**40426100** C22B-01200E12A-2,33NB	on request
24 DC	max. 1	**34184200** C22B-02400E1-13.4NB	**33288400** C22B-02400E3A-13.4NB	on request	**40948200** C22B-02400E12A-13,4NB	**28811200** C22B-02400E13A-13.4NB

	Ambient temperature °C (°F)	Fluid temperature °C (°F)
SF32P-C3 → →	-30 … +80 (-22 … +176)	-30 … +80 (-22 … +176)

B: 520 h v NSS podle ISO 9227

Voltage	Current	Connector types				
[V]	[A]	E1	E3A	E4A	E12A	E13A
12 DC	max. 2.6	**34180800** C22B-01200E1-2.33NB	**43850600** C22B-01200E3A-2.33NB	**42752300** C22B-01200E4A-2.33NB	**40426100** C22B-01200E12A-2.33NB	on request
24 DC	max. 1	**43534000** C22B-02400E1-13.1NB	on request	on request	**43498500** C22B-02400E12A-13.1NB	on request

Coils C31 (d = 31 mm (1.22 inch))

RPE4-10

→

Ambient temperature °C (°F)	Fluid temperature °C (°F)	Supply voltage tolerance % of U_N
-30...+50 (-22...+122)	-30...+80 (-22...+176)	±10

RPE4-10
Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types						
[V]	[A]	E1	E2	E3	E4	E5	E12A	E13A
12 DC	3.26	**16195700** C31A-01200E1-3.68FA	**27660800** C31A-01200E2-3.68FA	**16197001** C31A-01200E3-3.68FA	**16196901** C31A-01200E4-3.68FA	not available	**33252200** C31A-01200E12A-3.68FA	on request
14 DC	2.98	**16195900** C31A-01400E1-4.73FA	**27660900** C31A-01400E2-4.73FA	on request	on request	not available	on request	on request
24 DC	1.78	**16196100** C31A-02400E1-13.5FA	**23896000** C31A-02400E2-13.5FA	**16197201** C31A-02400E3-13.5FA	**16197101** C31A-02400E4-13.5FA	not available	**33252300** C31A-02400E12A-13.5FA	**34234400** C31A-02400E13A-13.5FA
27 DC	1.52	**16196300** C31A-02700E1-17.8FA	**27661000** C31A-02700E2-17.8FA	**27661301** C31A-02700E3-17.8FA	**27661401** C31A-02700E4-17.8FA	not available	on request	**33863900** C31A-02700E13A-17.8FA
205 DC	0.20	**16196700** C31A-20500E1-1027FA	not available	not available	not available	not available	not available	not available
230 AC 50 Hz	0.20	not available	not available	not available	not available	**16195101** C31A-23050E5-1027FA	not available	not available

RPE4-10
Surface treatment B: 520 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types					
[V]	[A]	E1	E2	E3	E4	E12A	E12A
12 DC	3.26	**40135200** C31A-01200E1-3.68FB	on request	on request	on request	**41292600** C31A-01200E12A-3.68FB	on request
24 DC	1.78	**31648900** C31A-02400E1-13.5FB	**42422000** C31A-02400E2-13.5FB	**29427901** C31A-02400E3-13.5FB	on request	**41292600** C31A-02400E12A-13.5FB	**44969200** C31A-02400E13A-13,5FB
27 DC	1.52	**40167600** C31A-02700E1-17.8FB	not available	**31803101** C31A-02700E3-17.8FB	on request	on request	on request
205 DC	0.20	**34353800** C31A-20500E1-1027FB	not available	not available	not available	not available	not available

Coils C31 (d = 31 mm (1.22 inch))

RPEW4-10

→

Ambient temperature °C (°F)	Fluid temperature °C (°F)	Supply voltage tolerance % of U_N
-30...+50 (-22…+122)	-30…+80 (-22…+176)	±10

RPEW4-10 (Wirebox)
Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types
[V]	[A]	EW1
12 DC	3.26	**24172000** C31A-01200EW1-3.68FA/M
24 DC	1.78	**24172200** C31A-02400EW1-13.5FA/M
106 DC	0.42	**24172400** C31A-10600EW1-252FA/M

RPEW4-10 with CSA certification
Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types
[V]	[A]	EW1
120 AC 60 Hz	0.42	**24172600** C31A-10600EW1-252FAH/M

PRM6-10, PRM7-10

→

Ambient temperature °C (°F)	Fluid temperature °C (°F)
30 ...+50 (-22 ...+122)	-30…+80 (-22…+176)

Surface treatment A: 240 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types				
[V]	[A]	E1	E2	E3	E12A	E13A
12 DC	max. 1.9	**16195800** C31A-01200E1-4.73FA	on request	**33223901** C31A-01200E3-4.73FA	**33252400** C31A-01200E12A-4.73FA	**32877000** C31A-01200E13A-4.73FA
24 DC	max. 1.1	**16196100** C31A-02400E1-13.5FA	**23896000** C31A-02400E2-13.5FA	**16197201** C31A-02400E3-13.5FA	**33252300** C31A-02400E12A-13.5FA	**34234400** C31A-02400E13A-13.5FA

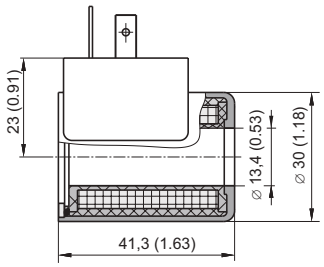
Surface treatment B: 520 h salt spray test acc. to ISO 9227

Voltage	Current	Connector types				
[V]	[A]	E1	E2	E3	E4	E12A
24 DC	max. 1.1	**31648900** C31A-02400E1-13.5FB	**42422000** C31A-02400E2-13.5FB	**29427901** C31A-02400E3-13.5FB	**33081100** C31A-02400E4-13.5FB	**33267000** C31A-02400E12A-13.5FB

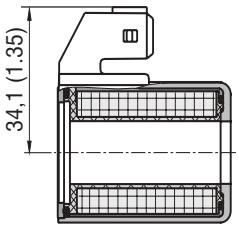
ARGO HYTOS
A Voith Company

C14B

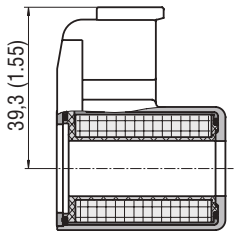
E1, E2 IP65



E3A, E4A IP67

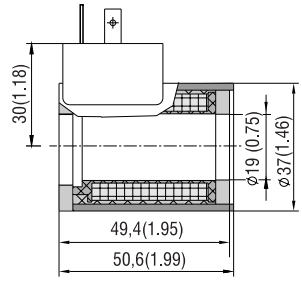


E12A , E13A IP67 / IP69K

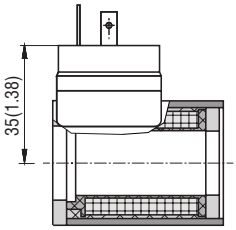


C19A

E1, E2 IP65

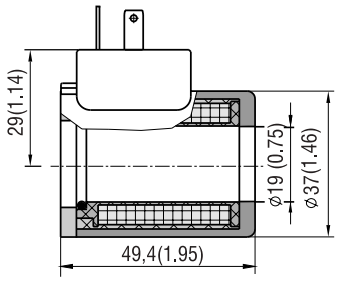


E5 IP65

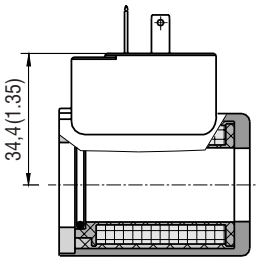


C19B

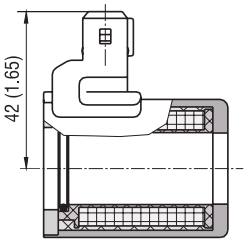
E1, E2 IP65



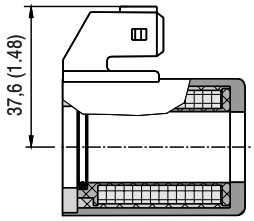
E5, E51 IP65



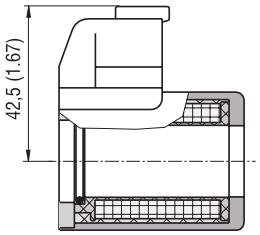
E3, E4 IP67



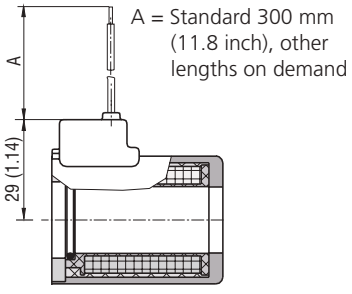
E3A , EA4 IP67



E12A , E13A IP67 / IP69K



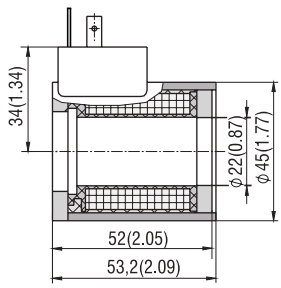
E8, E9



A = Standard 300 mm (11.8 inch), other lengths on demand

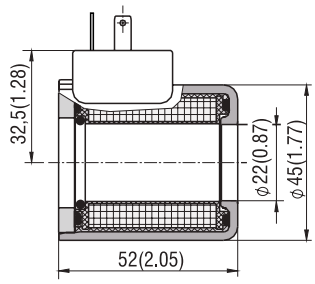
C22A

E1, E2 IP65

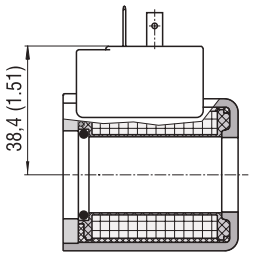


C22B

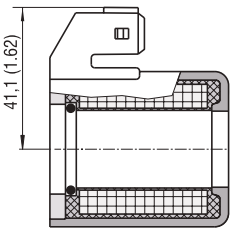
E1, E2 IP65



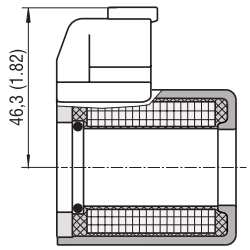
E5, E51 IP65



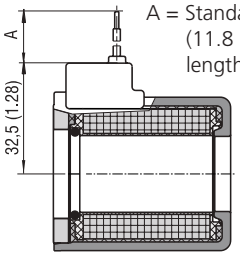
E3A , E4A IP67



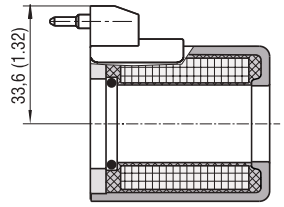
E12A , E13A IP67 / IP69K



E8, E9

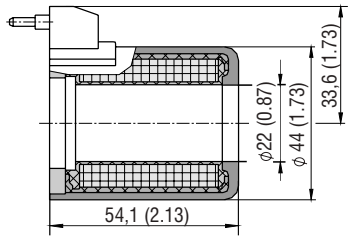


A = Standard 300 mm (11.8 inch), other lengths on demand



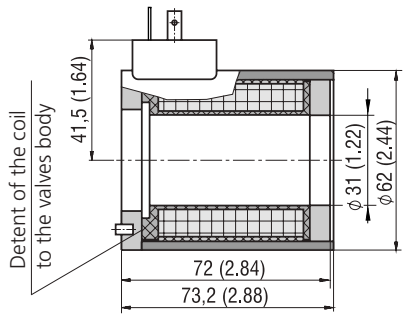
C22C

EW1, EW2 IP65

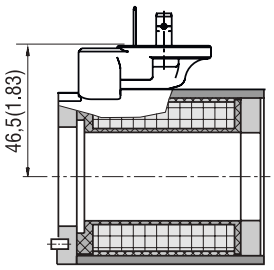


C31A

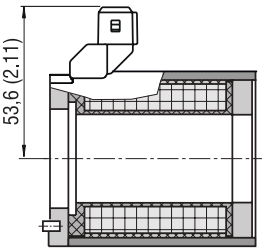
E1, E2 IP65



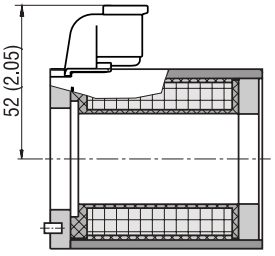
E5, E51 IP65



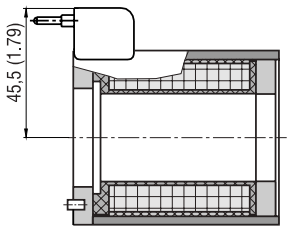
E3, E4 IP67

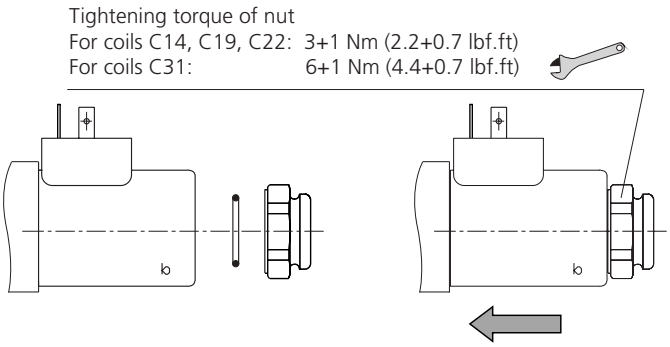


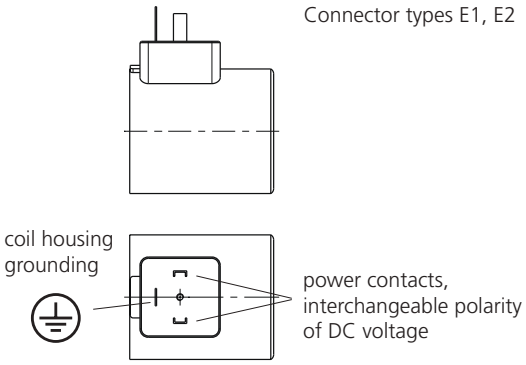
E12A , E13A IP67 / IP69K



EW1 IP65







› Choose the correct coil type according to the valve type given in this datasheet HA 8007.
When AC power supply is chosen, the connector with integrated rectifier or the connector plug with integrated rectifier must be used.
› The coil is placed on the solenoid actuating system (as indicated in the picture) and its position is fixed by a nut.
The nut must be tightened with the specified torque.
› The connector position can be set by rotating the coil around its longitudinal axis - continuously in the range of 0 - 360° / by 90° for coils with a locating pin.

CAUTION

› Coil mounting, especially the connection to power supply, must be carried out by a competent person only.

WARNING

› Before any handling the coil must be disconnected from the power supply.
› The hydraulic circuit must be switched off and unloaded during installation.
› Disconnect the coil from the power supply before dismounting and let it cool down to avoid burns.
The temperature may exceed 100 °C (212 °F) during operation.

Operation

Basic operating parameters are stated in the datasheet of the relevant solenoid operated valve and the coil description is given in the datasheet HA 8007.

CAUTION

› The electrical supply parameters must be appropriate for the coil type. The coils on switching valves are voltage controlled. The supply voltage should be within ±10% of the nominal voltage unless otherwise specified in the valve catalog. Coils on proportional valves are current controlled. The limit (maximum current) that may flow through the coil on a continuous basis is listed in the coil type table.
› The coil may be energized only if correctly placed on the solenoid actuating system and properly fixed by a nut.
› If a valve is operated by two solenoids acting in the opposite directions, the two solenoids must never be energized simultaneously.
› Protect the coil against the effects of high temperatures and thermal shocks. The operating temperature range of hydraulic fluid and max.imum ambient temperature are stated in the datasheet of the given valve. In general, there must be a sufficient heat removal from the coil so that the mean winding temperature does not exceed 155 °C (311 °F).
› Protect the coil against peak voltages by a suitable overvoltage protection.
› Protect the coil against mechanical damage, excessive vibrations and shocks.
› Protect the coil against effects of a corrosive environment and aggressive chemicals.
› The coil is not designed for operation immersed in fluid.
› The specified IP rating applies only in the case of correctly connected connectors (male + female) with the corresponding IP rating.

WARNING - notices regarding the residual risks

› Damaged coils, coils with damaged parts of the power supply connector or a damaged cable must be taken out of operation immediately. There is a possibility of electric shock.
› Don't touch the coil surface during operation. The coil becomes warm and there is a risk of burns.

Applicability of legal regulations
The following requirements apply to the coils:

› Directive 2014/30/EU for electromagnetic compatibility of electrical equipment
› Directive 2014/35/EU for low voltage equipment with rated voltage higher than 75 V DC and 50 V AC, respectively.

Coils are designated by the CE conformity mark and they are delivered with instructions. The declaration of conformity is issued for each item.
Tests of coils according to the CSA standard are carried out together with the hydraulic part. The certification covers the complete directional control valves.