



Proportional Cartridges

Section 16

SECTION 16



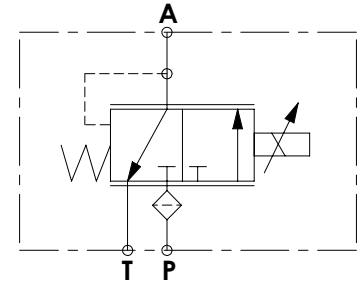
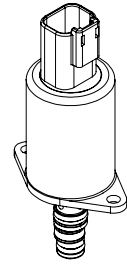
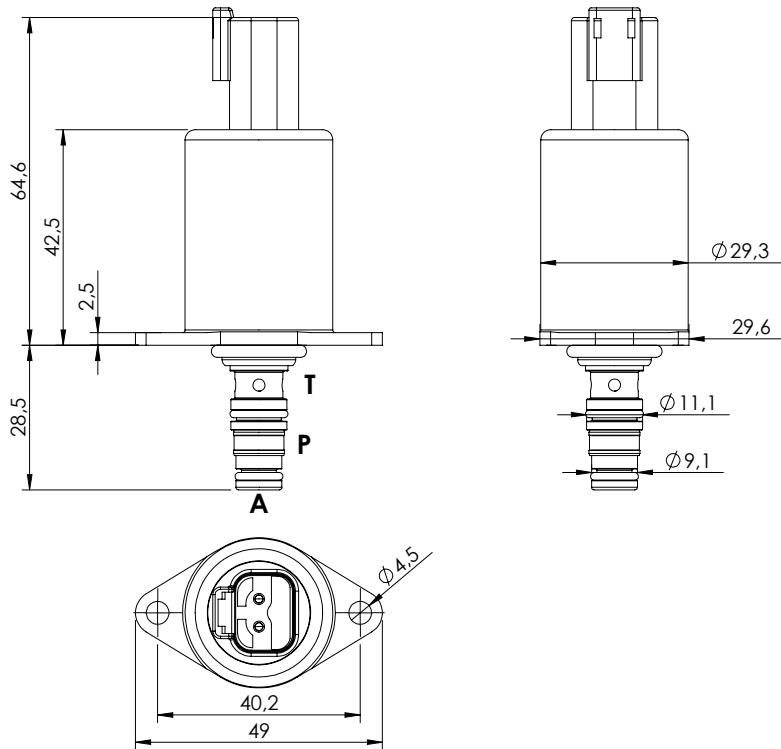
PROPORTIONAL CARTRIDGES

Hydraulic scheme	Valve description	Valve type	Rated flow (l/min)	Max. pressure (bar)	Installation	Main port size or cavity type	Page
	CECS-005-PRPN	Proportional, direct operated, pressure reducing	5	50	DT04-2P	VP000371	16.01.010
	CECT-080-PRPS	Proportional, pilot operated, reducing and relieving	80	250	Cartridge	SAE-10-3N	16.02.020
	CEBD-005-PLPS	Proportional, poppet type relief	5	350	Cartridge	SAE-08-2N	16.03.030
	CEBT-120-PLPS	Proportional, pilot operated, relieving	120	350	Cartridge	SAE-10-2N	16.04.040
	CEBT-120-PMPS	Proportional, pilot operated, relieving, for fan drive	120	350	Cartridge	SAE-10-2N	16.04.050
	CEBT-300-PLPS	Proportional, pilot operated, relieving	300	350	Cartridge	SAE-16-2N	16.04.060
	CEBT-500-PLPS	Proportional, pilot operated, relieving	500	350	Cartridge	SAE-20-2N	16.04.070
	CECS-020-FSPS	Proportional, non compensated, flow regulator	20	210	Cartridge	SAE-10-3N	16.05.080
	CECS-030-FSPS	Proportional, non compensated, flow regulator	30	210	Cartridge	SAE-10-3N	16.05.080
	CECS-040-FSPS	Proportional, non compensated, flow regulator	40	210	Cartridge	SAE-10-3N	16.05.080
	CECS-140-FRPV	Proportional, direct operated, flow regulator	140	320	Cartridge	SAE-16-3N	16.06.090
	ELPC-030-SCCB	Proportional electronic controller	-	-	DIN 43650	-	16.07.100

SOLENOID OPERATED CARTRIDGE

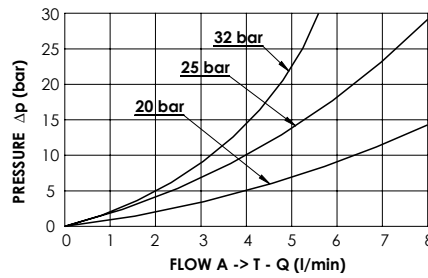
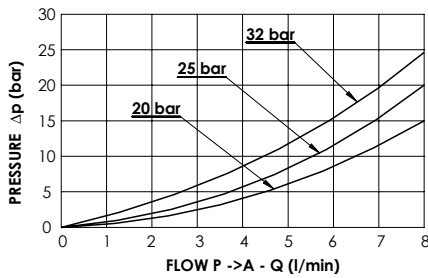
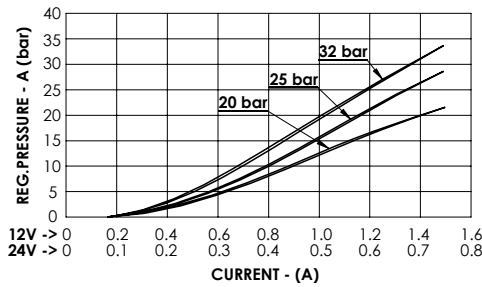
CECS-005-PRPN

**PROPORTIONAL VALVES
DIRECT OPERATED
PRESSURE REDUCING**



SPECIFICATIONS

Max. P pressure:	50 bar
Max. T pressure:	30 bar
Rated flow:	5 l/min
Cavity:	VP000371
Weight:	0.3 kg
Connector type:	Deutsch DT04-2P
Internal leakage:	15 cc/min (@ 25 bar, 46 cSt)
Protection class:	Up to IP6K6 / IPX9K
PWM range recommended:	100 Hz
Filter on P port:	125 µm
Mounting screw:	2 x M4x10 class 8.8
Mounting screw torque:	3.5 Nm
Mounting screw not included	
Seal kit:	RC700371



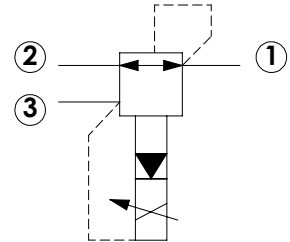
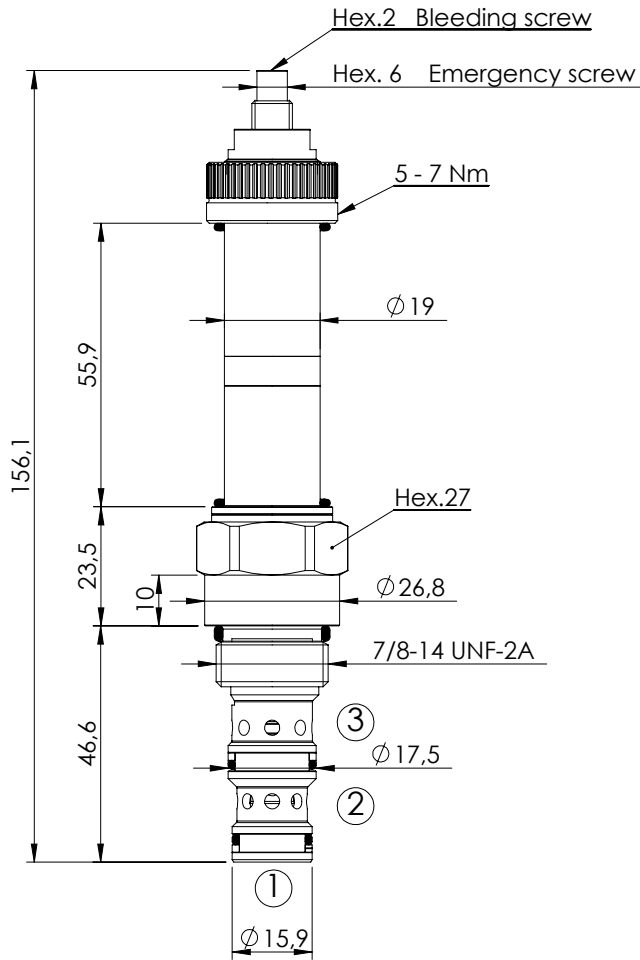
ORDERING CODES

Quick code	Description	Regulated pressure range (bar)	Voltage (V)	Current (mA)	Resistance (Ω) ± 5%	Hysteresis (bar) pA
CE000850	CECS-005-PRPN-95-371-N020-12DT	0-20	12	1500	4.72	< 0.4
CE000851	CECS-005-PRPN-95-371-N020-24DT	0-20	24	750	20.8	< 0.4
CE000852	CECS-005-PRPN-95-371-N025-12DT	0-25	12	1500	4.72	< 0.5
CE000853	CECS-005-PRPN-95-371-N025-24DT	0-25	24	750	20.8	< 0.5
CE000893	CECS-005-PRPN-95-371-N032-12DT	0-32	12	1500	4.72	< 0.7
CE000862	CECS-005-PRPN-95-371-N032-24DT	0-32	24	750	20.8	< 0.7

SOLENOID OPERATED CARTRIDGE

CECT-080-PRPS

**PROPORTIONAL VALVES
PILOTED OPERATED PRESSURE
REDUCING AND RELIEVING**

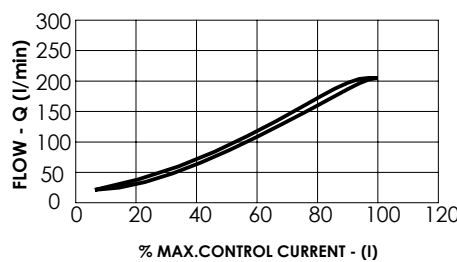
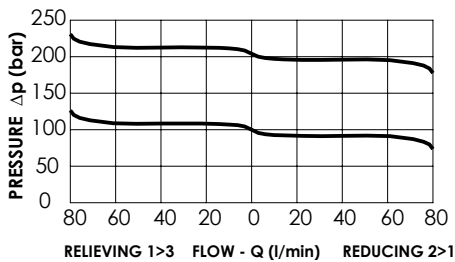


SPECIFICATIONS

Max. operating pressure:	250 bar
Rated flow:	80 l/min
Cavity:	SAE-10-3N
Weight:	0,22 kg
Coil type:	M15 type
Installation torque:	55 - 62 Nm
PWM range recommended:	120-150 Hz
Seal kit:	RA100092

NOTES

Bleed air before use



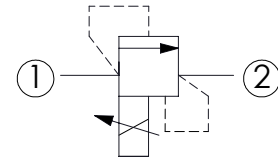
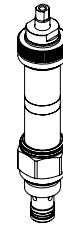
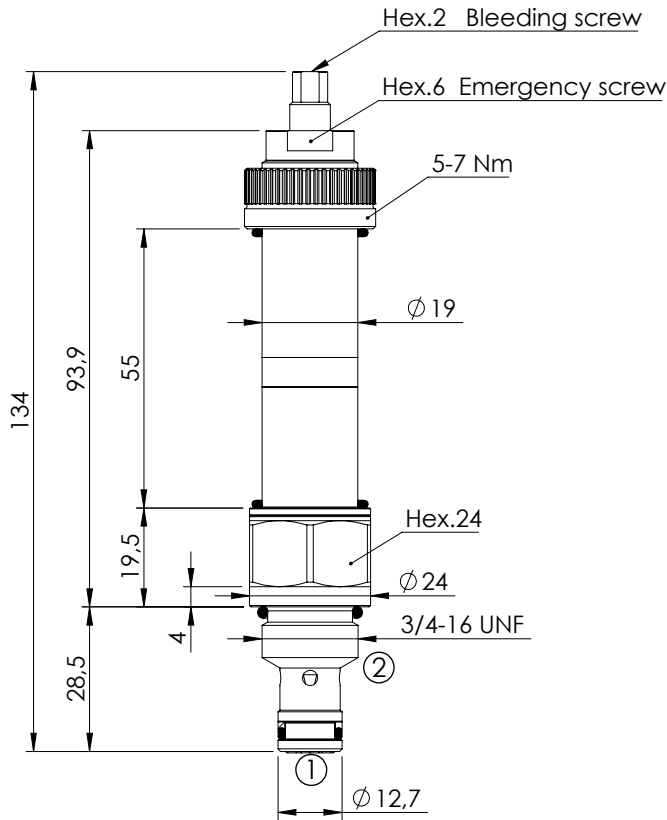
ORDERING CODES

Quick code	Description	Regulated pressure range (bar)	Threshold current (with 12VDC coil)	Max control current (with 12V DC coil)	Override
CE000122	CECT-080-PRPS-96-S10-V210	20-220	200 mA (+/-7%)	1700 mA (+/-7%)	Screw style

SOLENOID OPERATED CARTRIDGE

CEBD-005-PLPS

**PROPORTIONAL VALVES
POPPET TYPE RELIEF**

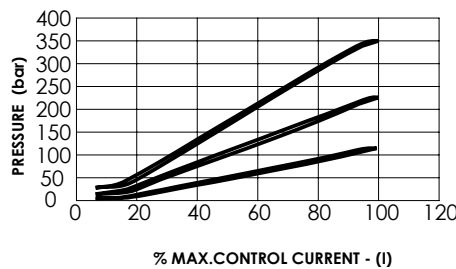
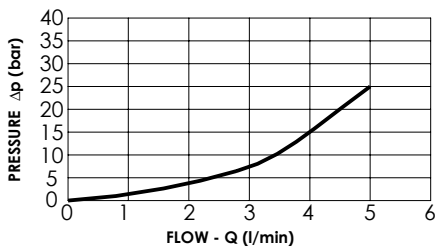


SPECIFICATIONS

Max. operating pressure:	350 bar
Rated flow:	5 l/min
Cavity:	SAE-08-2N
Weight:	0,16 kg
Coil type:	M15 type
PWM range recommended:	120-150 Hz
Installation torque:	45 - 50 Nm
Seal kit:	RA100081

NOTES

Bleed air before use



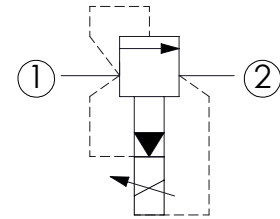
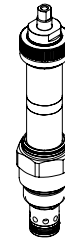
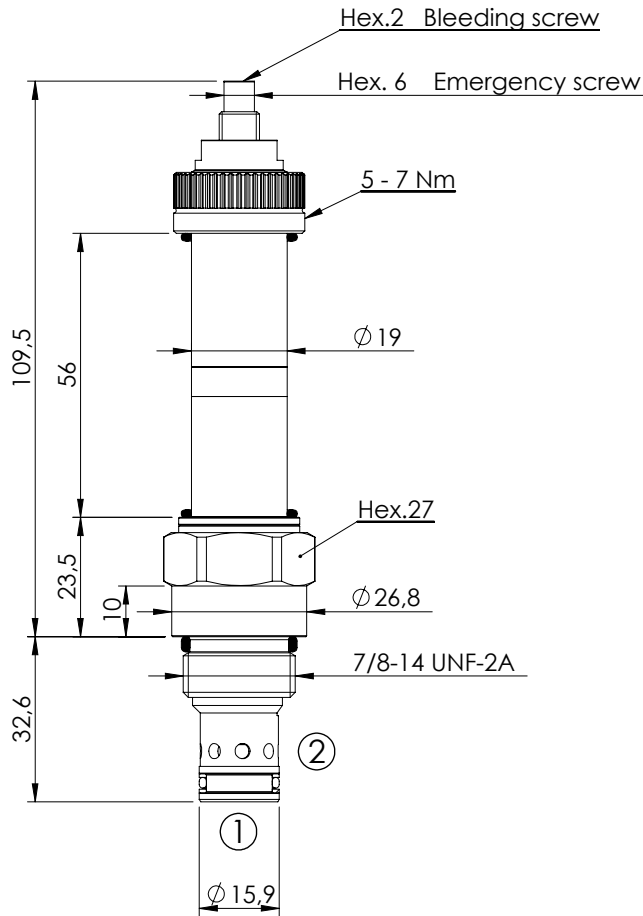
ORDERING CODES

Quick code	Description	Setting range (bar)	Threshold current (with 12VDC coil)	Max control current (with 12V DC coil)	Override
CE000910	CEBD-005-PLPS-92-S08-V350	30-350	250 mA (+/-7%)	1800 mA (+/-7%)	Screw style
CE000911	CEBD-005-PLPS-92-S08-V200	20-220	200 mA (+/-7%)	1700 mA (+/-7%)	Screw style
CE000912	CEBD-005-PLPS-92-S08-V100	10-120	200 mA (+/-7%)	1600 mA (+/-7%)	Screw style

SOLENOID OPERATED CARTRIDGE

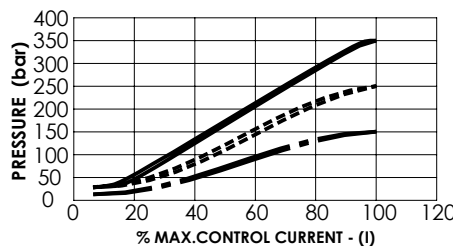
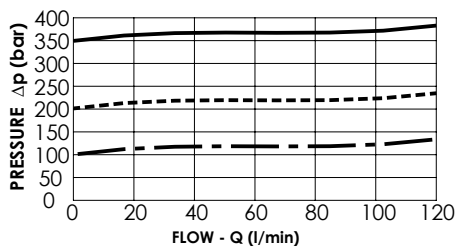
CEBT-120-PLPS

**PROPORTIONAL VALVES
PILOTED RELIEF
SPOOL TYPE**



SPECIFICATIONS

Max. operating pressure:	350 bar
Rated flow:	120 l/min
Cavity:	SAE-10-2N
Weight:	0,2 kg
Coil type:	M15 type
Max. int. leakage:	200 cm ³ /min (@46 cSt)
Installation torque:	55 - 62 Nm
PWM range recommended:	150-180 Hz
Seal kit:	RB100082



CE000119 1>2 ————— CE000120 1>2 - - - - - CE000121 1>2 - . - . - .

NOTES

Bleed air before use

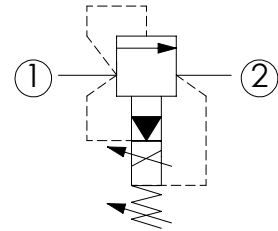
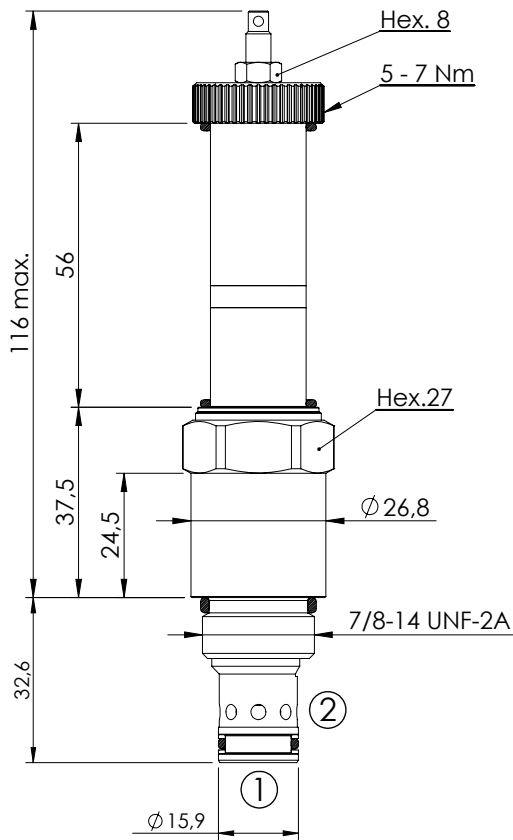
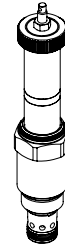
ORDERING CODES

Quick code	Description	Setting range (bar)	Threshold current (with 12VDC coil)	Max control current (with 12V DC coil)	Override
CE000119	CEBT-120-PLPS-91-S10-V350	30-350	200 mA (+/-7%)	1600 mA (+/-7%)	Screw style
CE000120	CEBT-120-PLPS-91-S10-V200	20-220	200 mA (+/-7%)	1700 mA (+/-7%)	Screw style
CE000121	CEBT-120-PLPS-91-S10-V100	15-90	200 mA (+/-7%)	1700 mA (+/-7%)	Screw style

SOLENOID OPERATED CARTRIDGE

CEBT-120-PMPS

**PROPORTIONAL VALVES
PILOTED RELIEF
SPOOL TYPE FOR FAN DRIVE**

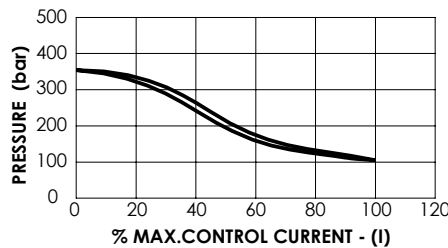
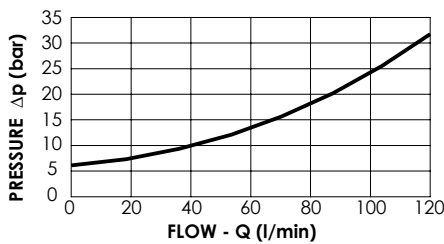


SPECIFICATIONS

Max. operating pressure:	350 bar
Rated flow:	120 l/min
Cavity:	SAE-10-2N
Weight:	0,21 kg
Coil type:	M5 type
Max. int. leakage:	200 cm ³ /min (@46 cst)
Installation torque:	55 - 62 Nm
PWM range recommended:	150-180 Hz
Seal kit:	RB100082

NOTES

Pressure decreasing with current increasing.
Maximum pressure value can be adjusted manually within a range.



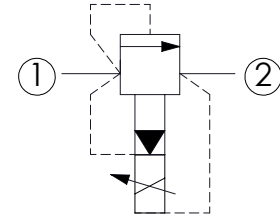
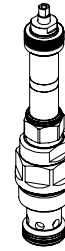
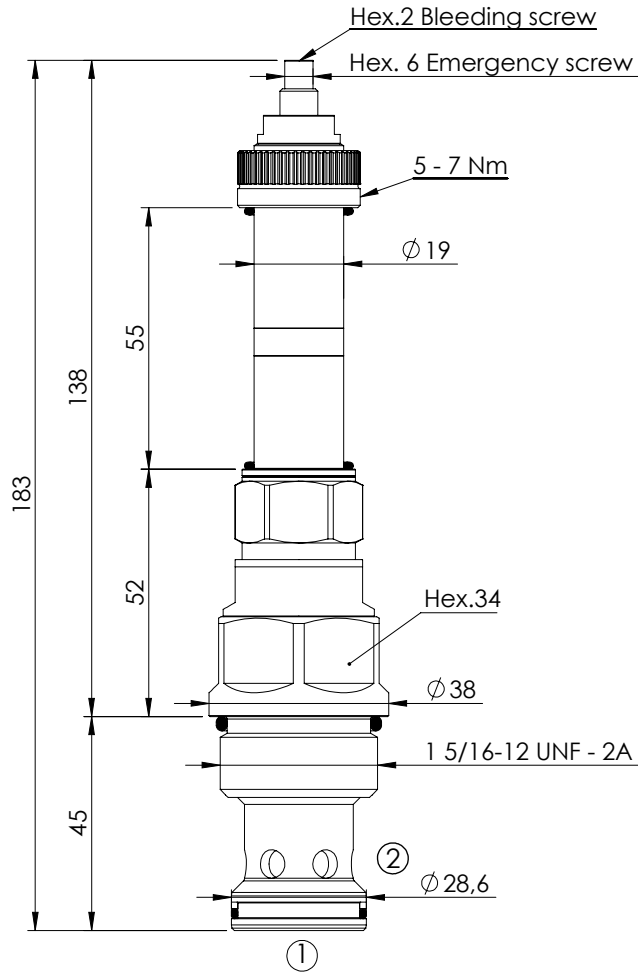
ORDERING CODES

Quick code	Description	Minimum pressure (bar)	Max. pressure setting range (bar)	Standard setting (bar)	Threshold current (with 12VDC coil)	Max control current (with 12V DC coil)
CE000890	CEBT-120-PMPS-91-S10-V350	7	100-350	210	200 mA (+/-7%)	1600 mA (+/-7%)

SOLENOID OPERATED CARTRIDGE

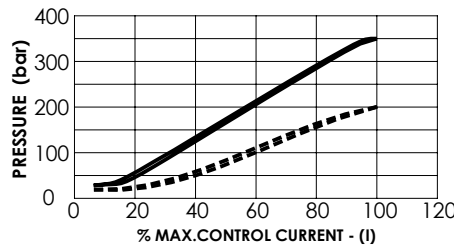
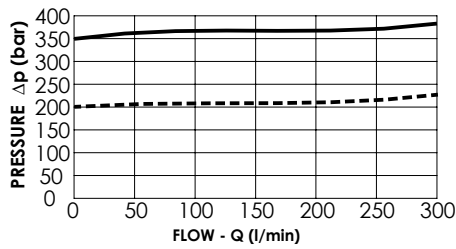
CEBT-300-PLPS

**PROPORTIONAL VALVES
PILOTED RELIEF
SPOOL TYPE**



SPECIFICATIONS

Max. operating pressure:	350 bar
Rated flow:	300 l/min
Cavity:	SAE-16-2N
Weight:	0,5 kg
Coil type:	M15 type
Max. int. leakage:	200 cm ³ /min (@46 cSt)
Installation torque:	118 - 132 Nm
PWM range recommended:	150-180 Hz
Seal kit:	RA100084



CE000880 1>2 ————— CE000895 1>2 - - - - -

NOTES

Bleed air before use

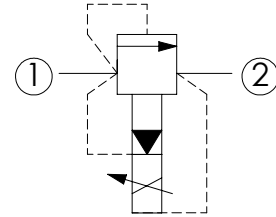
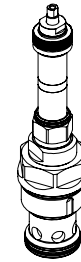
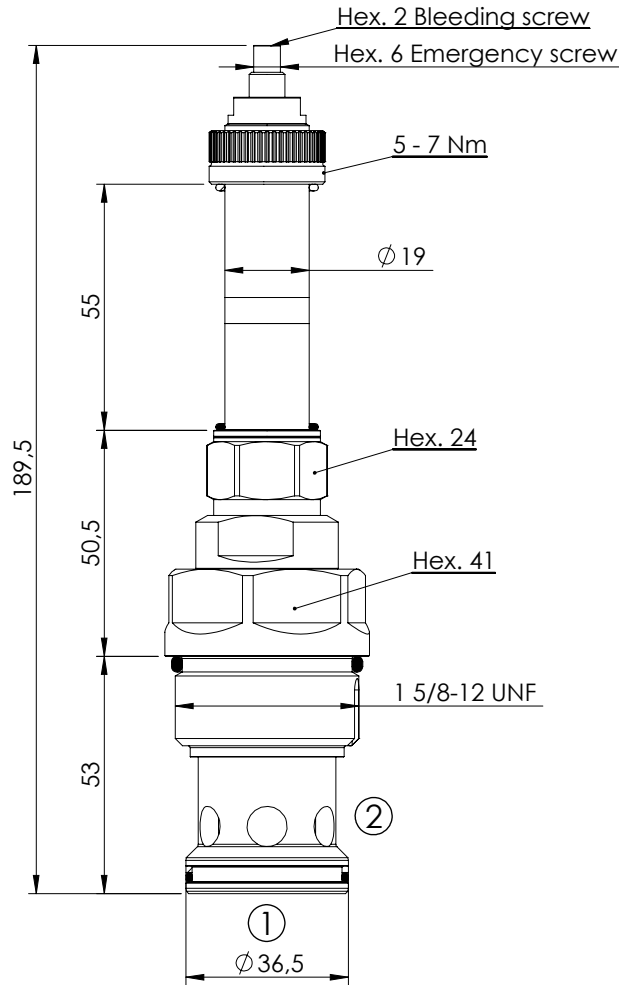
ORDERING CODES

Quick code	Description	Proportional setting range (bar)	Threshold current (with 12VDC coil)	Max control current (with 12V DC coil)	Override
CE000880	CEBT-300-PLPS-91-S16-V350	30-350	200 mA (+/-7%)	1600 mA (+/-7%)	Screw style
CE000895	CEBT-300-PLPS-91-S16-V200	20-200	200 mA (+/-7%)	1700 mA (+/-7%)	Screw style

SOLENOID OPERATED CARTRIDGE

CEBT-500-PLPS

**PROPORTIONAL VALVES
PILOTED RELIEF
SPOOL TYPE**



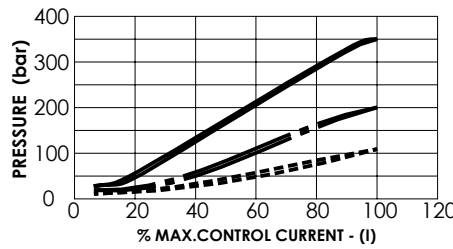
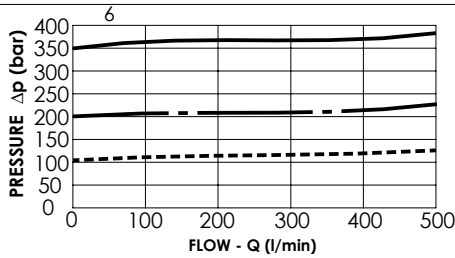
SPECIFICATIONS

Max. operating pressure:	350 bar
Rated flow:	500 l/min
Cavity:	SAE-20-2N
Weight:	0,7 kg
Coil type:	M5 type
Max. int. leakage:	200 cm ³ /min (@46 cSt)
Installation torque:	230 - 250 Nm
PWM range recommended:	150-180 Hz

Seal kit: RA100085

NOTES

Bleed air before use



CE000770 1>2 ———
 CE000771 1>2 - - - -
 CE000772 1>2

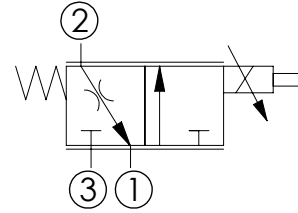
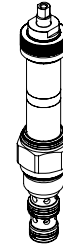
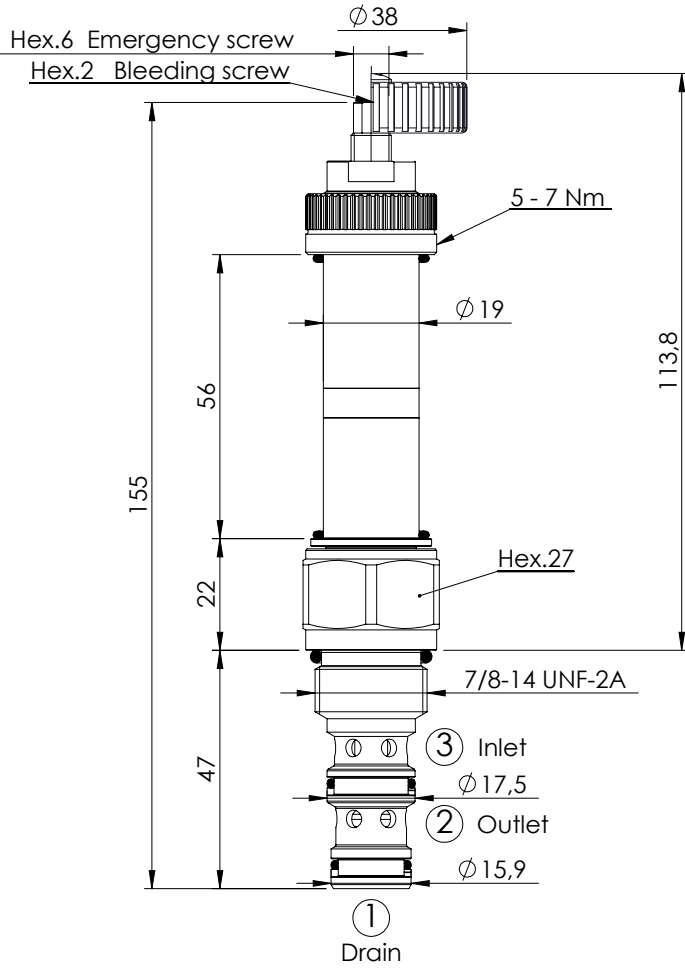
ORDERING CODES

Quick code	Description	Setting range (bar)	Threshold current (with 12VDC coil)	Max control current (with 12V DC coil)	Override
CE000770	CEBT-500-PLPS-91-S20-V350	30-350	200 mA (+/-7%)	1600 mA (+/-7%)	Screw style
CE000771	CEBT-500-PLPS-91-S20-V200	20-220	200 mA (+/-7%)	1700 mA (+/-7%)	Screw style
CE000772	CEBT-500-PLPS-91-S20-V100	15-90	200 mA (+/-7%)	1700 mA (+/-7%)	Screw style

SOLENOID OPERATED CARTRIDGE

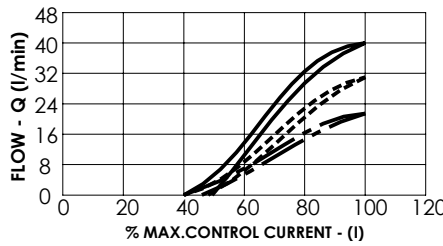
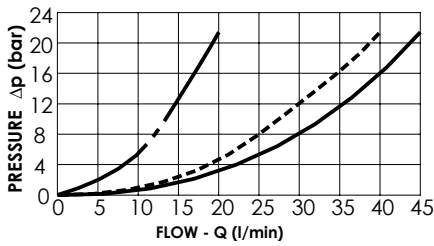
CECS-040-FSPS

**PROPORTIONAL VALVES
NON COMPENSATED
FLOW REGULATOR**



SPECIFICATIONS

Max. operating pressure:	210 bar
Rated flow:	40 l/min
Cavity:	SAE-10-3N
Weight:	0,22 kg
Coil type:	M15 type
Max. int. leakage:	150 cm ³ /min (@46 cSt)
Installation torque:	55 - 62 Nm
Recommended PWM range:	150-180 Hz
Seal kit:	RA100092



CE000111 3>2 ——— CE000112 3>2 - - - - - CE000113 3>2 — - - - -

NOTES

Bleed air before use

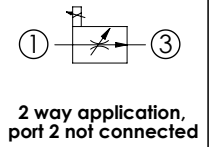
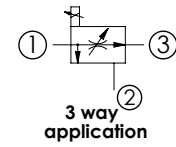
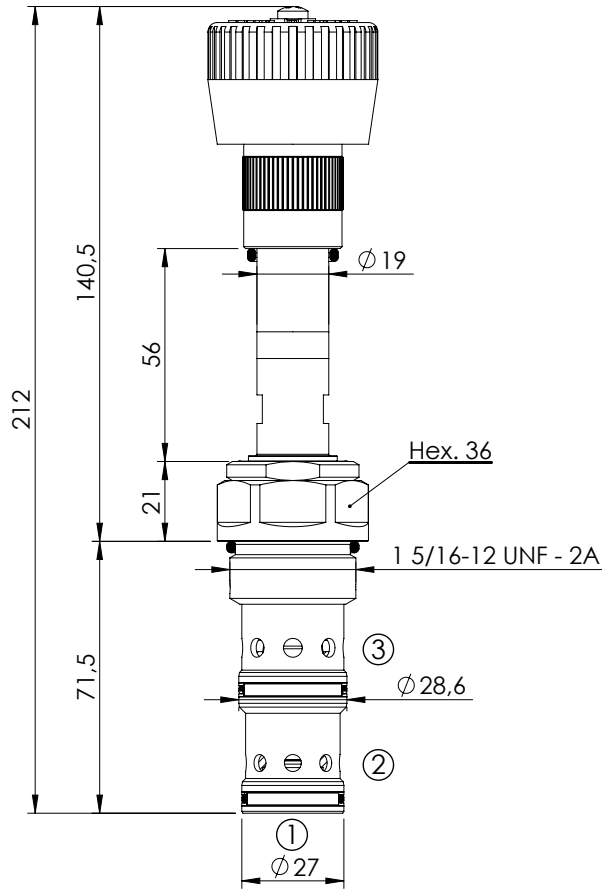
ORDERING CODES

Quick code	Description	Rated flow (l/min)	Threshold current (with 12VDC coil)	Max control current (with 12V DC coil)	Override
CE000111	CECS-040-FSPS-85-S10-V210	40	800 mA (+/-7%)	1600 mA (+/-7%)	Screw style
CE000112	CECS-030-FSPS-85-S10-V210	30	700 mA (+/-7%)	1500 mA (+/-7%)	Screw style
CE000113	CECS-020-FSPS-85-S10-V210	20	700 mA (+/-7%)	2400 mA (+/-7%)	Screw style
CE000960	CECS-040-FSPV-85-S10-V210	40	800 mA (+/-7%)	1600 mA (+/-7%)	Handknob style
CE000906	CECS-030-FSPV-85-S10-V210	30	700 mA (+/-7%)	1500 mA (+/-7%)	Handknob style
CE000489	CECS-020-FSPV-85-S10-V210	20	700 mA (+/-7%)	2400 mA (+/-7%)	Handknob style

PROPORTIONAL CARTRIDGE

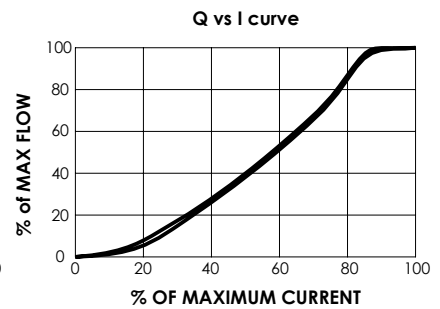
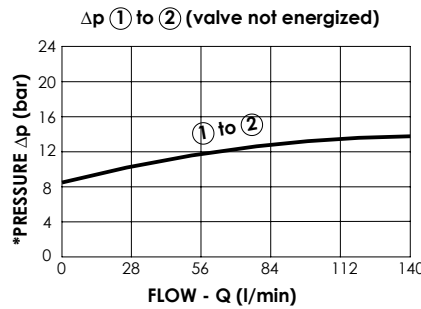
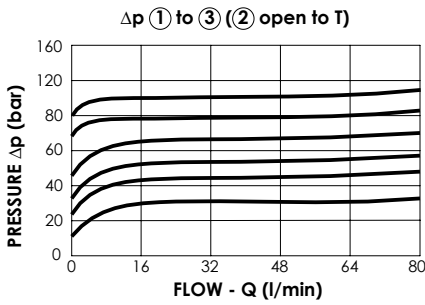
CECS-140-FRPV

**PROPORTIONAL VALVES
FLOW REGULATOR
3 WAYS COMBINATION**



SPECIFICATIONS

Max. operating pressure:	320 bar
Maximum flow (in inlet port ①):	140 l/min
Max. flow ① to ③:	80 l/min(regulated)
Pressure differential (① to ③):	7 - 11 bar
Hysteresis (ramp up and down):	1,5 - 3 %
Coil type:	M15
Voltage:	12- 24 V dc
Max voltage (12 V dc):	1800 mA
Max voltage (24 V dc):	1200 mA
Coil resistance (12 V dc):	3.3-5.8 Ω
Coil resistance (24 V dc):	7.2-13 Ω
Weight:	0,6 kg
Cavity:	SAE-16-3N
Installation torque:	130 -145 Nm
Surface protection proportional solenoid:	Coating DIN 50962 Fe8//ZiNi with passivation
Seal kit:	RB100094

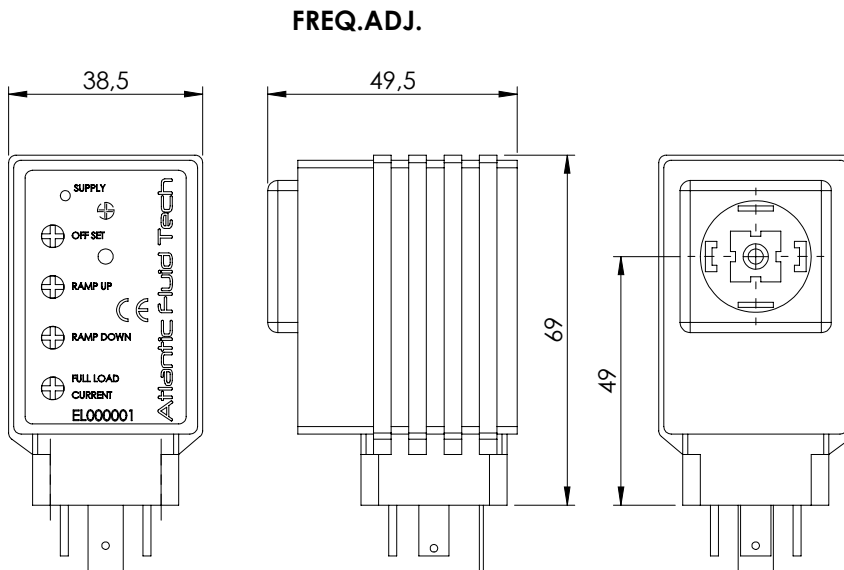
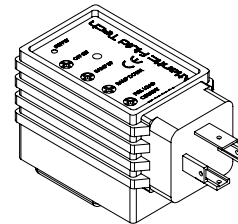


ORDERING CODES

Quick code	Description	Regulated flow range (l/min)	Adjustment type
CE000831	CECS-140-FRPV-15-S16-V320	0 - 15	Handknob
CE000832	CECS-140-FRPV-25-S16-V320	0 - 25	Handknob
CE000833	CECS-140-FRPV-40-S16-V320	0 - 40	Handknob
CE000834	CECS-140-FRPV-50-S16-V320	0 - 50	Handknob
CE000835	CECS-140-FRPV-65-S16-V320	0 - 65	Handknob
CE000836	CECS-140-FRPV-80-S16-V320	0 - 80	Handknob

PROPORTIONAL VALVE CONTROLLER

ELPC-030-SCCB



Max torque 0,5 Nm

SPECIFICATIONS

Supply voltage: 12 - 30 VDC
Coil rating must be matched with supply voltage:
 $R_{coil} < (V_{supply} - 1.5V) / I_{max}$

Control input signal options:
5KΩ external potentiometer
(accepts 2KΩ to 10KΩ), or 0-10 VDC signal
(see connection diagram)

Output current: up to 2A

Minimum current: 0 - 0,6 A

Max current deviation in temperature range: 3%

Ramp up / ramp down: 0,1 to 10 sec
Ramp setting independent from current range

PWM frequency: 100 - 500 Hz

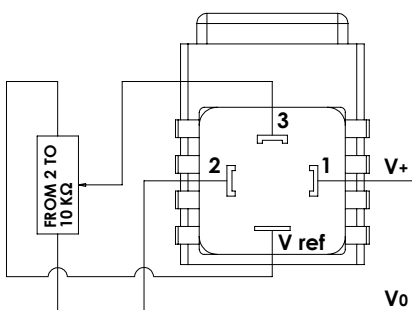
Operating conditions: -20 TO +70°C
0 to 85% relative humidity

Environmental protection: IP65
with cover and seals installed

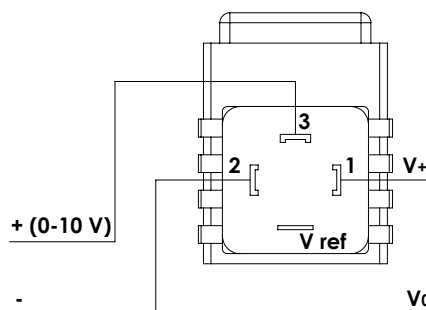
Connector type: DIN 43650 - ISO 4400

IMPORTANT
DO NOT REMOVE controller from solenoid when energized to avoid the risk of damaging it

CONNECTION EXAMPLE WITH JOYSTICK OR POTENTIOMETER



CONNECTION EXAMPLE WITH ANALOGIC SIGNAL



SETTING INSTRUCTIONS

SUPPLY: led is on when current is supplied

OFFSET: to be used to set minimum current value (I min), turn clockwise to increase setting

RAMP UP: to be used to set the ramp time from minimum (I min) to maximum current value (I max)

RAMP DOWN: to be used to set the ramp time from maximum (I max) to minimum current value (I min)

FULL LOAD CURRENT: to be used to set maximum current value (I max), turn clockwise to increase setting

FREQ. ADJ.: this trimmer is inside the controller and is preset by factory, to be used to modify the PWM frequency

ORDERING CODES

Quick code	Description
ELO00001	Proportional controller ELPC-030-SCCB