

## Series ESDR

### ELECTRONIC SUCTION PRESSURE REGULATION VALVE STEPPER MOTOR OPERATED

#### PRODUCT DATA



#### Features

- Stepper motor operated
- Continuous control behaviour
- High pressure compensation (Balanced port)
- Low pressure drop
- High cooling capacity
- Copper solder connections
- Refrigerant: R134a, R404A, R407C, R410A, R422D

#### Technical Data

Nominal capacity	see table on page 2
Maximum pressure PS	35 bar
Maximum test pressure PF	38,5 bar
Min. operating temperature	-50 °C
Max. operating temperature	+65 °C
Max. ambient temperature	+100 °C

#### Electronic Data

Stepper motor type	2 phase bipolar
Nominal voltage	12 V chopper controlled
Nominal phase current	0,7 A
Max. phase current	1 A
Holding current max.	0,7 A
Step rate	300 Hz
Phase resistance	6 Ohm
Phase inductance	14 mH
Step angel	1,8 °

#### Material

Valve housing, internals	brass
Motor housing	stainless steel
Connections	copper
Valve sealing	PTFE
Motor	electrical sheet, copper

#### Application

Electronic suction pressure regulation valves series ESDR are used to control the refrigerant mass flow in the suction line of a refrigerating plant.

A stepper motor driven piston opens / close the valve seat. With this continuous control behaviour it is possible to hold a defined temperature level in a cold store also with changing compressor working conditions.

It is also possible to handle different temperature levels in several cold stores with a common compressor pack by use of suction pressure regulation valves.

Furthermore an overload protection of the compressor or a capacity controller can be realised with ESDR valves.

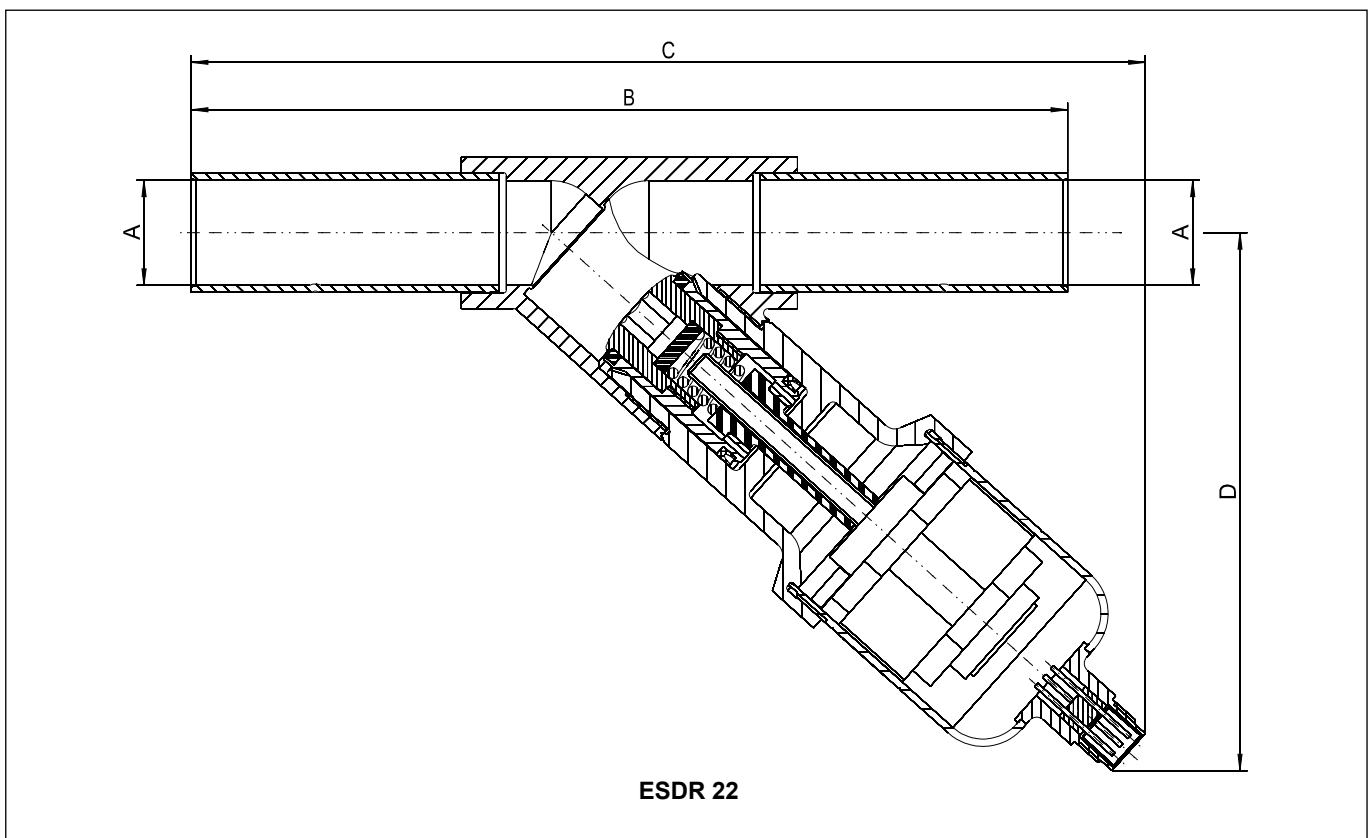
### Nominal Capacity

Type	Valve size	kv – value (m³/h)	Nominal capacity (kW)*				
			R134a	R404A	R407C	R410A	R422D
ESDR	22	17	34,9	37,8	42,7	55,5	34,5

\* Capacities are based on evaporating temperature to = +4 °C, condensing temperature tc = +38 °C und 1 K subcooled refrigerant, pressure drop over the valve 0,15 bar

### Dimensions and Weights

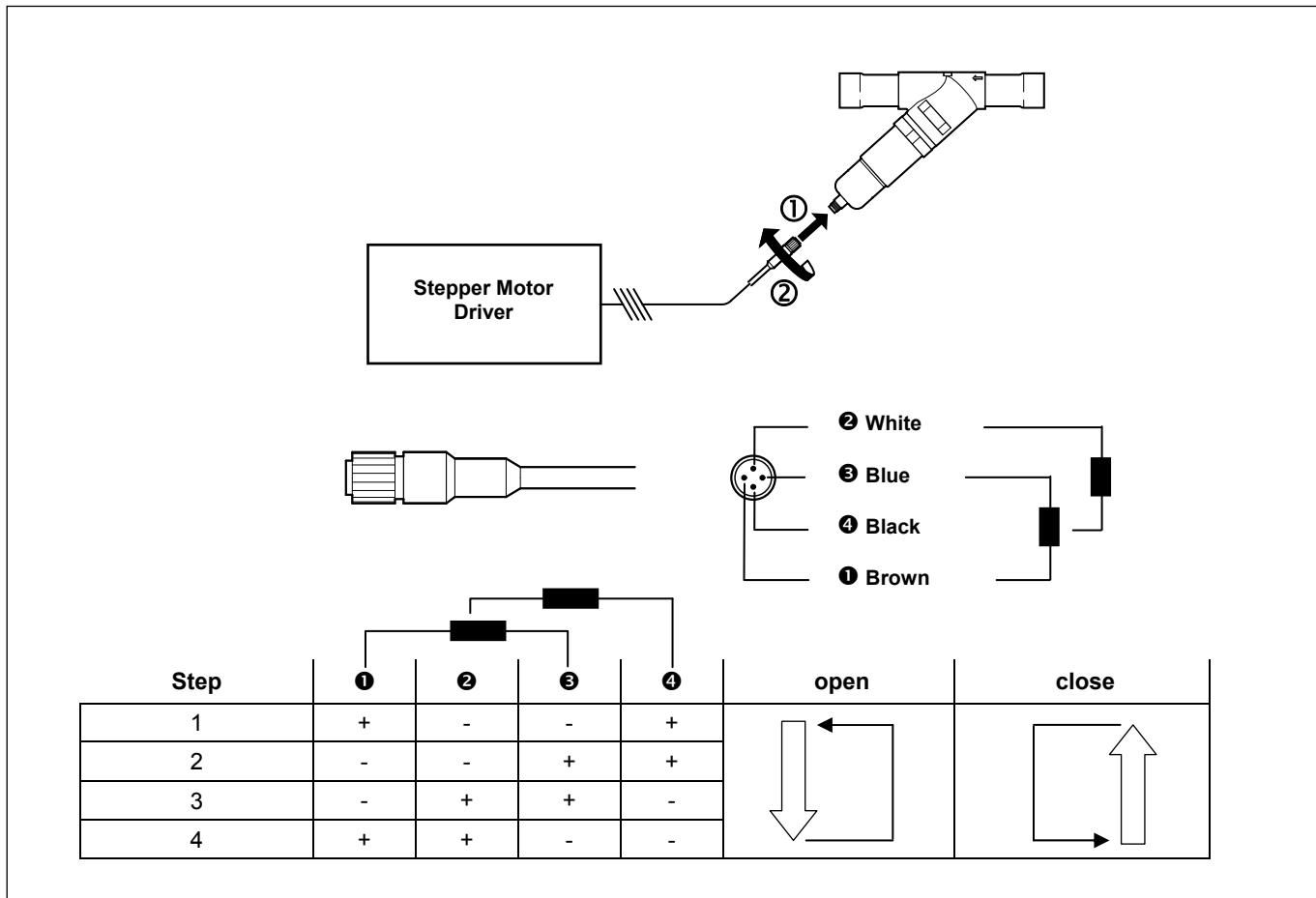
Type	Valve size	Dimensions				Weight
		ØA	B	C	D	
ESDR	22	22 mm ODF	185 mm	201,4 mm	113,6 mm	ca. 1,05 kg
		28 mm ODF				



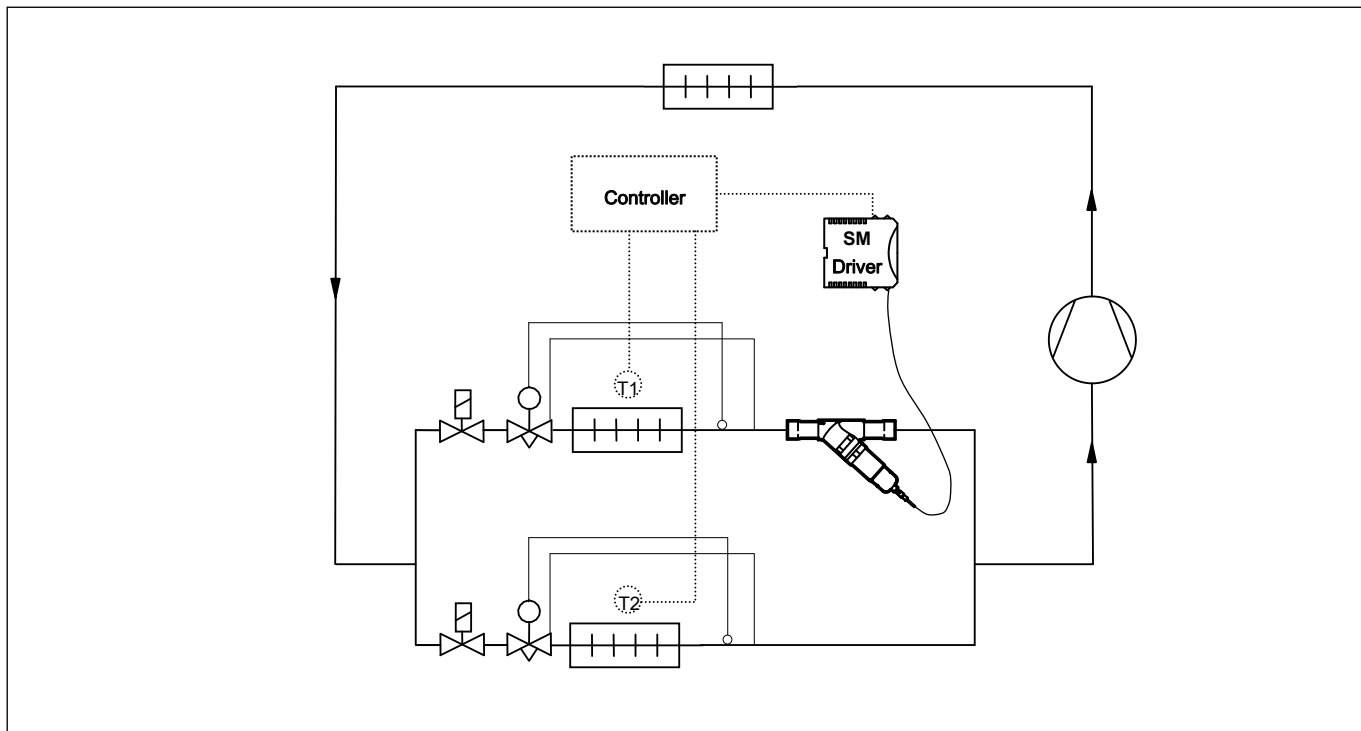
### Type Code / Order Information

	ESDR	22	22 x 22mm
Series	_____		
Valve seat diameter / Valve size	_____		
Solder connections ODF (Inlet x Outlet)	_____		

### Wiring Schematic for Stepper Motor



### Application Sample



## Installation

- Respect the installation instruction!
- Position of the stepper motor in a suspended arrangement
- Flow direction must correspond with the arrow on the valve body
- When soldering the valve, the valve body must not get warmer than 100 °C
- Do not direct connect the stepper motor to power supply. Use a stepper motor driver to operate the stepper motor.
- The technical data of the stepper motor driver must correspond with the electrical and technical data of the valve
- To open / close the valve via a stepper motor driver respect the sequence of polarity at the coils shown in the wiring schematic
- Constructive modifications at the valve are not allowed

**Information for original equipment manufacturers:**

The valve series ESDR can be customised to the requirements of our series device in an optimum way. Contact us!

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