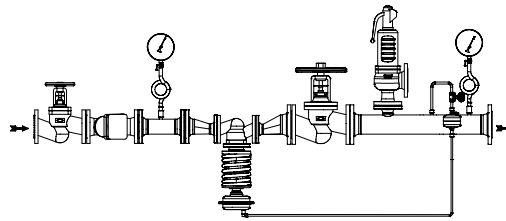


ARI-Pressure reducing station, self-acting or with electro-pneumatic control

ARI-PREsys®-S
Pressure reducing station
for steam

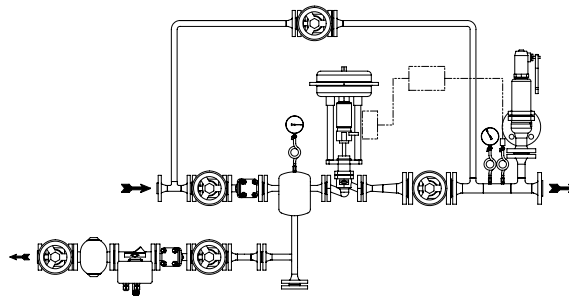
- Pressure reducing station ready for operation
- self-acting or with electro-pneumatic control
- Pipe material: P235GH
1.4571/1.4541
- Valve materials:
EN-JL1040
EN-JS1049
1.0619+N
1.4408 (only electro-pneumatic)



ARI-PREsys®-S

ARI-PREsys®-S Complete
Pressure reducing station
for steam

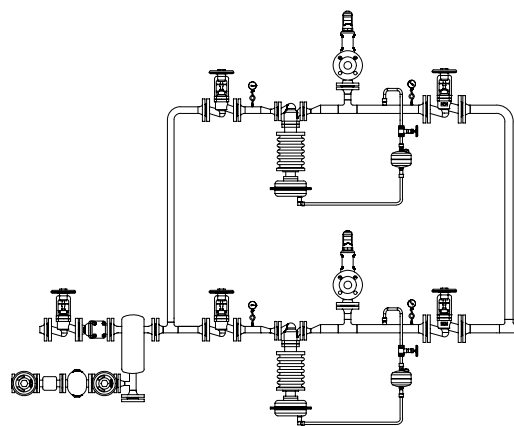
- Pressure reducing station ready for operation
- self-acting or with electro-pneumatic control
- Pipe material: P235GH
1.4571/1.4541
- Valve materials:
EN-JL1040
EN-JS1049
1.0619+N
1.4408 (only electro-pneumatic)



ARI-PREsys®-S Complete

ARI-PREsys® Duplex
Pressure reducing station

- Pressure reducing station ready for operation
- self-acting or with electro-pneumatic control
- Pipe material: P235GH
1.4571/1.4541
- Valve materials:
EN-JL1040
EN-JS1049
1.0619+N
1.4408 (only electro-pneumatic)

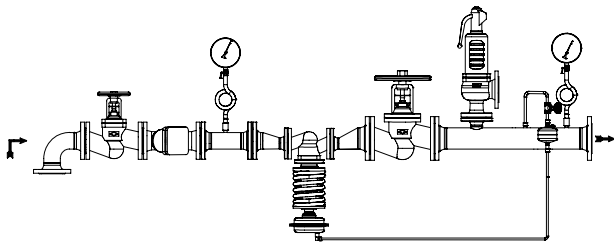


ARI-PREsys® Duplex

Features:

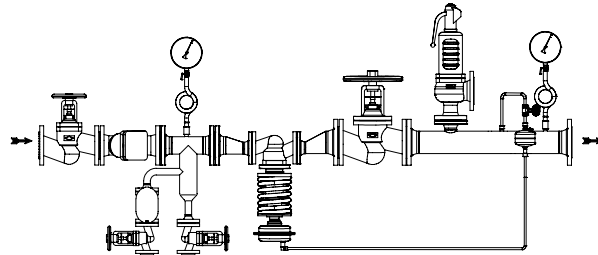
- Compact design
- Exact and easy adjustment
- Maintenance-free design through stainless steel bellows
- Process security through harmonized individual components
- Pressure-secure subassembly
- Dry and clean process steam optionally with separator (steam drier)
- Emergency operation during maintenance through bypass line
- Minimum-pressure side condensate drain possible
- Optionally with wall or floor bracket
- Service through plant documentation

ARI-PREsys®-S for steam



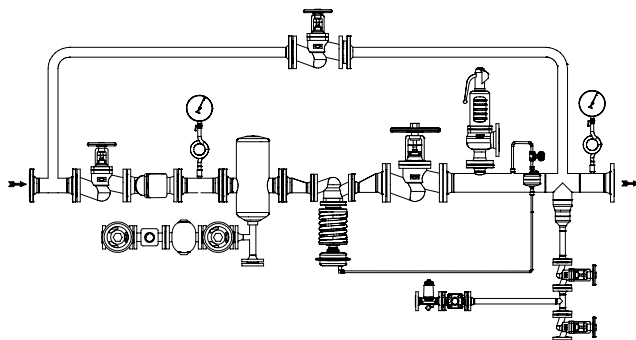
PRS-S

Pressure reducing station with connection to ascending pipeline
(also as Duplex or with electro-pneumatic control)



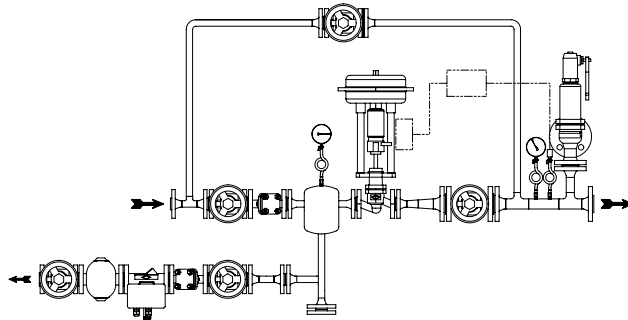
PRS-S Plus

Pressure reducing station with P1-side condensate drain
(also as Duplex or with electro-pneumatic control)



PRS-S Complete

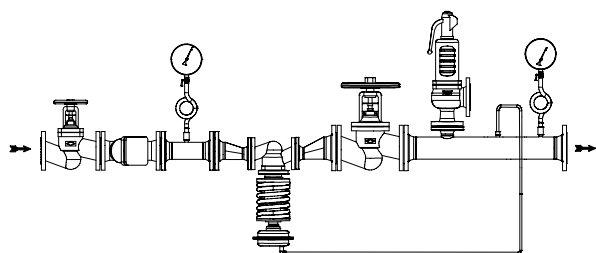
Pressure reducing station with complete equipment
(Bypass, steam drier, condensate drain P1- and P2-side)
(also with electro-pneumatic control)



Electro-pneumatic control

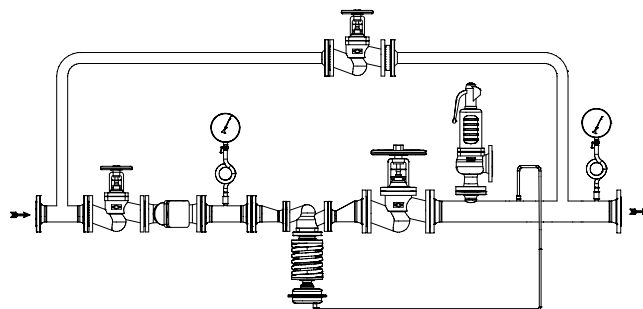
(with transmitter and PID-controller)

ARI-PREsys®-W for water / ARI-PREsys®-A for air



PRS-W / PRS-A

Pressure reducing station in standard design
(also as Duplex or with electro-pneumatic control)



PRS-W / PRS-A Complete

Pressure reducing station with bypass,
stop valves and safety valves with soft seal
(also with electro-pneumatic control)

For dimensions and weights refer to specification sheet of the plan.

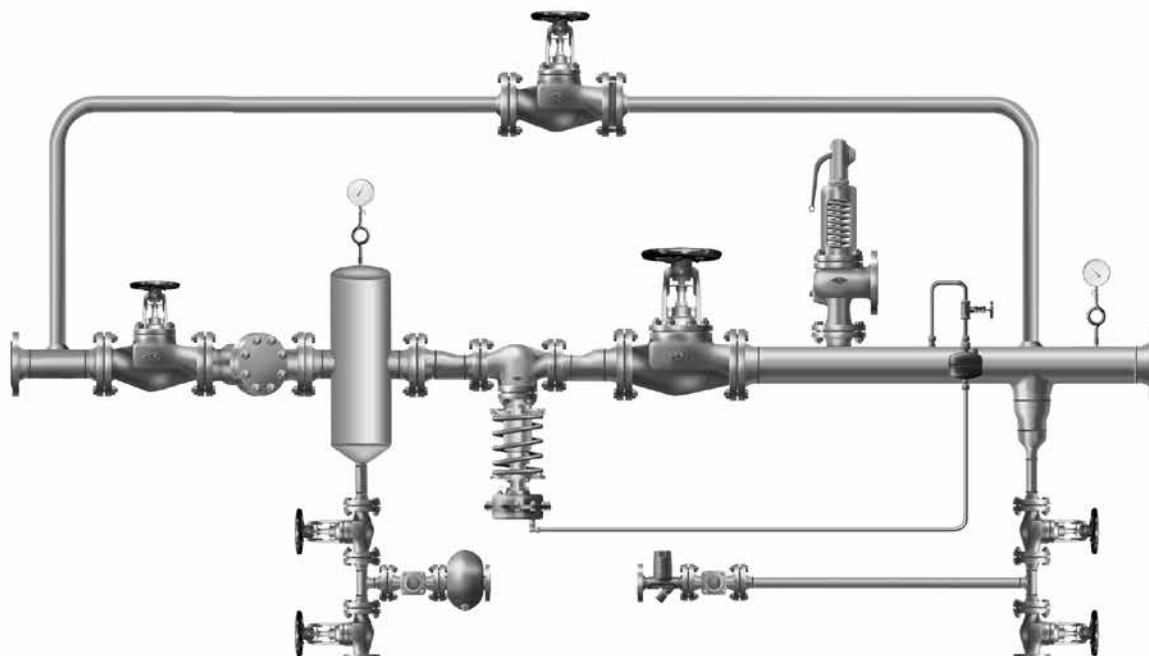
Application

The pressure reducing station is a fully-mounted unit. The pressure reducer used here is a directly controlled proportional controller without auxiliary power for reducing a higher input pressure to a lower minimum pressure.

The pressure reducer used here is solely for reducing pressure, which is why stop valves are installed for the connection of the minimum pressure side over a longer period. To guarantee a longer service life for the station a strainer and, optionally, a steam drier, are provided on the input pressure side. The minimum pressure side is fitted with a safety valve adjusted to the station.

The input and minimum pressure are read off directly at the pressure gauge supplied.

A desired bypass pipe guarantees emergency operations even without a pressure reducer.



Example illustration
 (also with electro-pneumatic control)

Evaluation of the pressure reducing station in accordance with PED 2014/68/EU (Fluid Group 2)

The evaluation of an installation (assembly of pressure vessels) is aligned to the correspondingly highest category of an installation component Art.10 Paragraph 2. Fittings with a safety function are not taken into account in the evaluation.

If all the individual components of a subassembly fall under Art. 3.3 (sound engineering practice), the installation may not display a CE mark in accordance with the PED.

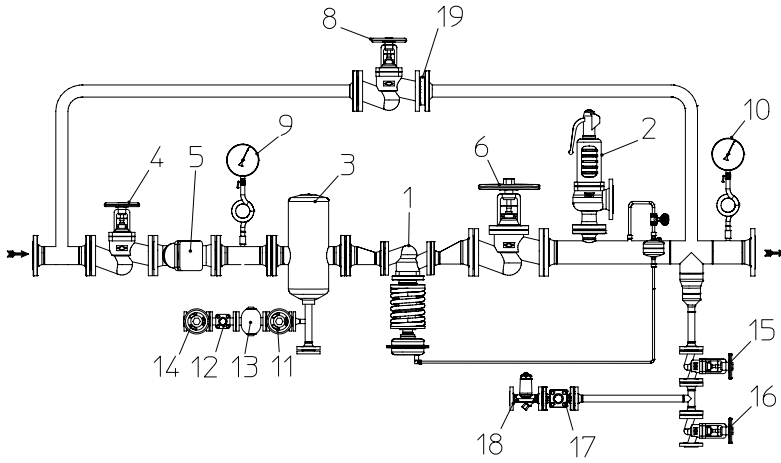
Declaration of conformity/matrix declaration: See the last page in the current operating instructions for the above-mentioned EC Directives.

Operating instructions can be ordered on request by phone (+49 52 07) 994-0 or fax (+49 52 07) 994-158 or 159.

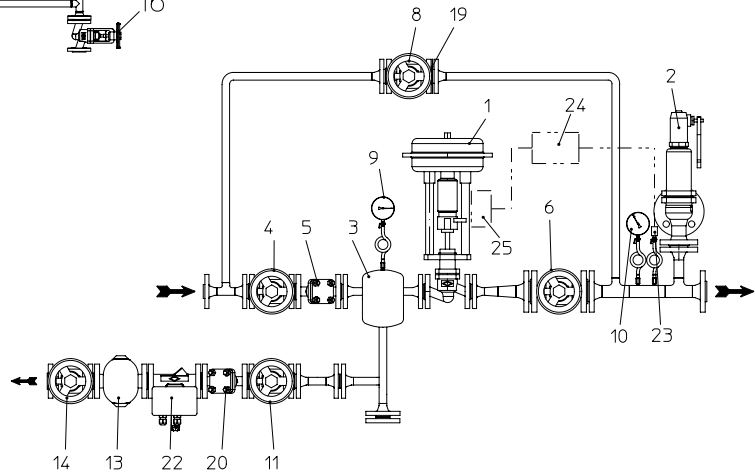
Pressure-temperature-ratings				Intermediate values for max. permissible operational pressures can be determined by linear interpolation of the given temperature / pressure chart.						
acc. to DIN EN 1092-1/-2				-10°C up to 50°C	100°C	150°C	200°C	250°C	300°C	350°C
12.PRS-...	EN-JL1040, P235GH	16	(bar)	16	14,9	13,9	12,4	11,2	9,6	-
22.PRS-...	EN-JS1049, P235GH, P250GH	16	(bar)	16	14,9	13,9	12,4	11,4	10,3	9,6
23.PRS-...	EN-JS1049, P235GH, P250GH	25	(bar)	25	23,3	21,7	19,4	17,8	16,1	15
32.PRS-...	1.0619+N, P235GH, P250GH	16	(bar)	16	14,9	13,9	12,4	11,4	10,3	9,6
34.PRS-...	1.0619+N, P235GH, P250GH	25	(bar)	25	23,3	21,7	19,4	17,8	16,1	15
35.PRS-...	1.0619+N, P235GH, P250GH	40	(bar)	40	37,3	34,7	30,2	28,4	25,8	24
55.PRS-...	1.4408, 1.4571, 1.4541	40	(bar)	40	39,6	36,3	33,7	31,8	29,7	28,5

Observe regulations

Information / restrictions in technical rules must be observed!



ARI-PREsys® self-acting (Example illustration)



ARI-PREsys® with electro-pneumatic control (Example illustration)

Pos.	Designation	Material			
		PN16 - 12.PRS	PN16 - 22.PRS PN25 - 23.PRS	PN16 - 32.PRS PN40 - 35.PRS	PN16 - 52.PRS ¹⁾ PN40 - 55.PRS ¹⁾
1	Pressure reducing valve ARI-PREDU, DN15-100	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	??
1	Control valve ARI-STEVI, DN15-100	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
2	Safety valve ARI-SAFE	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
3	Steam drier or water pocket	P265GH, 1.0425 / P235GH, 1.0345			X6CrNiMoTi17-12-2, 1.4571
4	Stop valve ARI-FABA-Plus	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
5	ARI-Y strainer with fine screen	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
6	Stop valve ARI-FABA-Plus	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
7	Water seal pot	P265GH, 1.0425			
8	Stop valve ARI-FABA-Plus	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
9	Pressure gauge+valve+siphon (upstream press. P1)	St			
10	Pressure gauge+valve+siphon (downstream press. P2)	St			
11	Stop valve ARI-FABA-Plus	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
12	Double window sight glass	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
13	Ball float steam trap ARI-CONA SC	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	X6CrNiTi18-10, 1.4541
14	Stop valve ARI-FABA-Plus	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
15	Stop valve ARI-FABA-Plus	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
16	Stop valve ARI-FABA-Plus	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
17	Double window sight glass	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
18	Steam trap ARI-CONA B / M	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	X6CrNiTi18-10, 1.4541
19	Orifice disc	P265GH, 1.0425			X6CrNiMoTi17-12-2, 1.4571
20	Strainer	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
22	Monitoring system for steam traps CONA-control	P250GH, 1.0460			X6CrNiTi18-10, 1.4541
23	Transmitter				
24	Pressure controller (PID)				
25	Electronic positioner				
	Pipes / flanges	P235GH, 1.0345 / P250GH, 1.0460			X6CrNiMoTi17-12-2, 1.4571 / X6CrNiTi18-10, 1.4541

Pressure reducing valve

DN		15	20	25	32	40	50	65	80	100
Kvs values	(m ³ /h)	3,2	5	8	12,5	20	32	50	80	125
Downstream pressure ranges	(bar-ü)	0,2 - 0,6	0,5 - 1,2	0,8 - 2,5	2 - 5	4,5 - 10	8 - 16			
Actuator DMA	(cm ²)	400	250	160	80	40				
max. permissible pressure	(bar)	1,6	2,5	6	10	20				

Design with control valves: refer to data sheet STEVI440/441 and STEVI470/471.

Designs

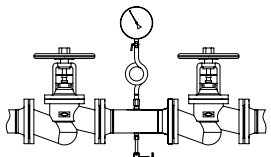
Code	Design	Type						
		PRS-S	PRS-S Plus	PRS-S complete	PRS-W	PRS-W complete	PRS-A	PRS-A complete
B	Bypass pipe	O	O	X	O	X	O	X
C	Condensate drain P2 side	O	O	X				
D	Steam drier insert	O		X				
E	Stop valve and safety valve with soft seal ¹⁾				O	X	O	X
F	Inlet pipe bend	X	O	O	O	O	O	O
G	Water pocket (simple steam trap)	O	X					
H	Wall bracket	O	O	O	O	O	O	O
J	Floor bracket	O	O	O	O	O	O	O
K	Double isolation ²⁾	O	O	O	O	O	O	O
T	Duplex (double design)	O	O		O		O	

X = standard design / O = special design

¹⁾

E	Soft seal PRS-W: Stop valves PTFE plug Safety valve EPDM plug PREDU actuator EPDM rolling diaphragm	Soft seal PRS-A: Stop valves PTFE plug Safety valve EPDM plug PREDU actuator EPDM rolling diaphragm
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²⁾ z.B.

K	<p>Special design for inlet and outlet: Double isolation bleed valve (P1- and P2-side)</p> 
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Information on pressure protection

Possible fluctuations in the input-side steam output and an additional bypass operation make it advantageous to spread the overpressure protection. For this purpose a safety valve for normal operations is provided directly downstream from the pressure reducer with another safety valve directly downstream from the last stop valve (for bypass operations).

In principle, the max. possible mass flow must be included to determine the safety valve. Normal operations are to be regarded as ideal operations and do not govern size of the safety valve.

The following operating conditions are to be avoided:

- Maximum mass flow of the total system applied, because, e.g., all the other consumers close.
- The pressure in the inlet area increases until it reaches the set pressure on the safety valve installed in the inlet area. The greater pressure difference this cases (upstream pressure to downstream pressure) leads to different operating conditions and possibly to a greater mass flow.
- Simultaneous opening of the bypass and main pipes.

Please take this into account for your enquiry or order and let us know which operating conditions can occur!

System code:

Type	PRS-S (steam), PRS-W (water), PRS-A (air)
Standard design (see page 2)	PRS-S, PRS-S Plus, ARI-PREsys®-S complete PRS-W, PRS-W complete PRS-A, PRS-A complete
Material (valves)	12 (PN16, EN-JL1040) / 22 (PN16, EN-JS1049) / 23 (PN25, EN-JS1049) 32 (PN16, 1.0619+N) / 35 (PN40, 1.0619+N) / 52 (PN16, 1.4408) / 55 (PN40, 1.4408)
Material (pipes)	P235GH (St35.8) / 1.4571 / 1.4541
Special design	Code B to T (see page 5)
Flange connection	PN16, PN25, PN40

Order example::

Type 22.PRS-S, Code B, C, H saturated steam 6 - 2	Pressure reducing station with ...	<ul style="list-style-type: none"> - Pipe bend for connection to an ascending pipe - Pipe system PN16, accessories material EN-JS1049 - Medium saturated steam 2000 kg/h with special design bypass pipe - Supply pressure 6 bar minimum pressure 2 bar - Discharge condensate drain (P2 side) - Additional wall bracket
--	------------------------------------	--

Please indicate when ordering:

1. ARI-PREsys® **Type** _____
e.g. Type 22.PRS-S with Code B, C, JH (pressure reducing station at ascending pipe, PN16, valves made of EN-JS1049, pipe made of P235GH, bypass pipe, steam traps -P2, wall bracket)

2. Medium _____ (Fluid group 2 in accordance with PED 2014/68/EU)

3. Upstream pressure P1 _____ (bar ü) Upstream pressure PS1 max. _____ (bar ü)
(e.g. set pressure of the safety valve in the feeder system)

4. Downstream pressure P2 _____ (bar ü) Downstream pressure PS1 max. _____ (bar ü)
(e.g. for determining the safety valve)

5. Temperature _____ (°C)

6. Required output (see note on page 5) _____ (kg/h) max. possible output _____ (kg/h)
 (KW) (e.g. Boiler output) _____ (KW)

7. Dimensions of installation location (if known) _____ (m) / _____ (m) / _____ (m)
(clearance to wall, ceiling height, room dimensions))

8. Design deviating from standard _____ (Code B to T, see page 5)

9. Materials
 Pipes: P235GH (St35.8)
 1.4571 / 1.4541

 Valves: EN-JL1040 (GG-25)
 EN-JS1049 (GGG-40.3)
 1.0619+N (GS-C25N)
 1.4408

10. Control device PREDU STEVI (electro-pneumatic control)
 Transmitter
 Pressure controller (PID)

11. Desired final inspections or approvals _____

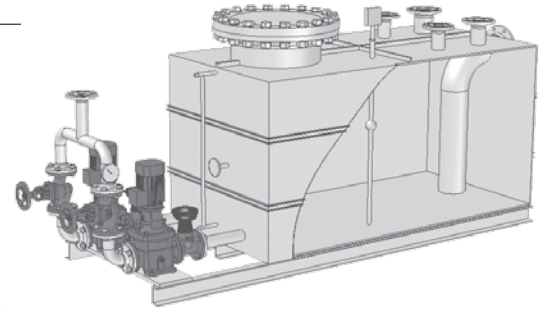
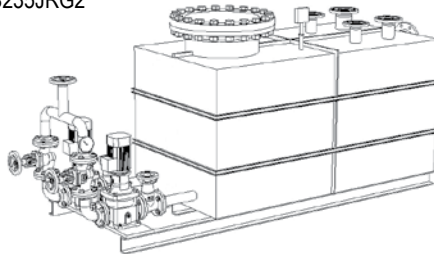

Technology for the Future.
 GERMAN QUALITY VALVES

ARI-Condensate recovery and return station

Volume: 150-2000 liter

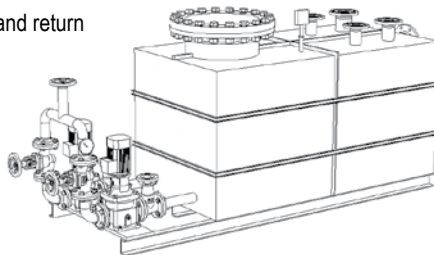
ARI-CORsys®-St
Condensate recovery and return station
Standard design

- Ready for operation condensate recovery and return station with zinc coated receiver made of S235JRG2 (St37)
- Pump made of EN-JL1030 / 1.4301
- Valves optionally made of:
EN-JL1040
EN-JS1049
1.0619+N



ARI-CORsys®-SSt
Condensate recovery and return station
Standard design made of stainless steel

- Ready for operation condensate recovery and return station with receiver made of 1.4541
- Pump made of 1.4401
- Valves optionally made of:
1.4408



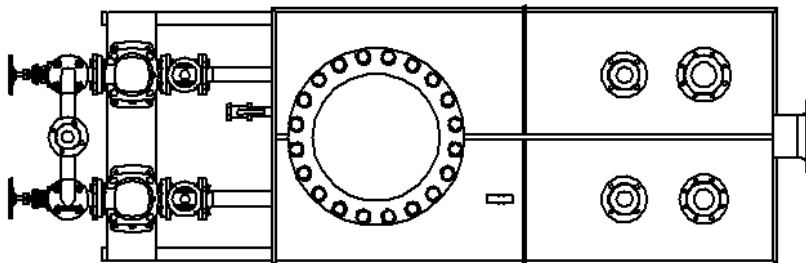
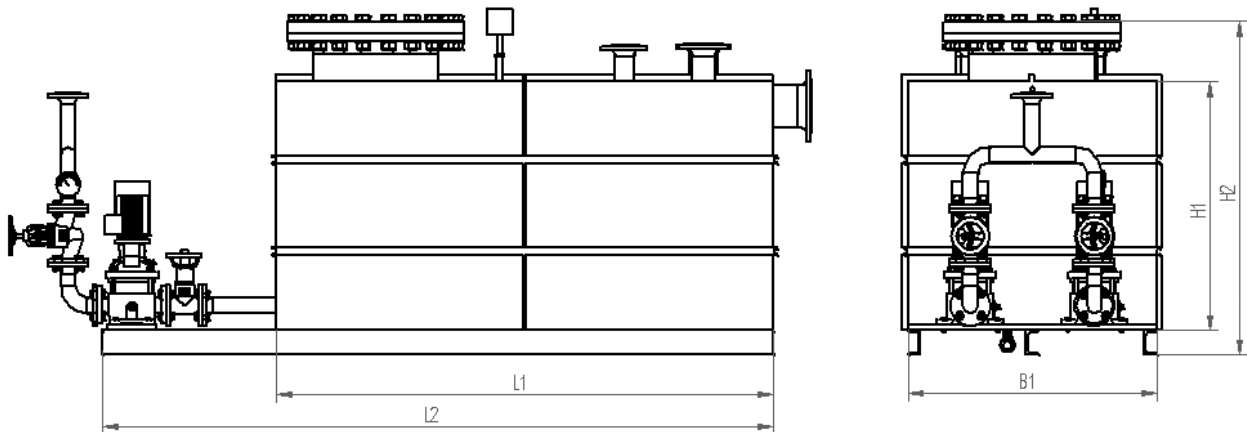
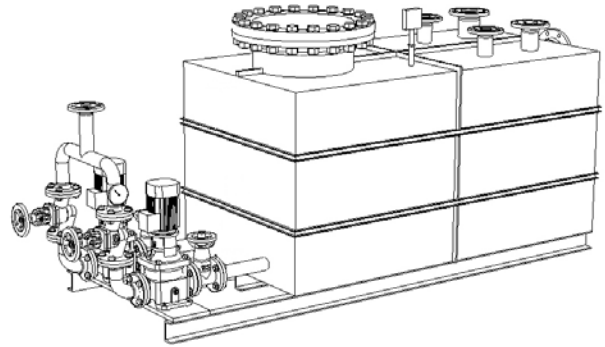
Features:

- Process security through harmonized individual components
- Protection against running dry and high water
- Redundant pump protection (two pumps)
- Fixed liquid levels
- High-quality corrosion protection through stainless steel possible
- Supplied ready for installation
- Service through plant documentation
- Low-NPSH-Pumps

ARI-CORsys® Condensate recovery and return station

ARI-CORsys®-St Standard design

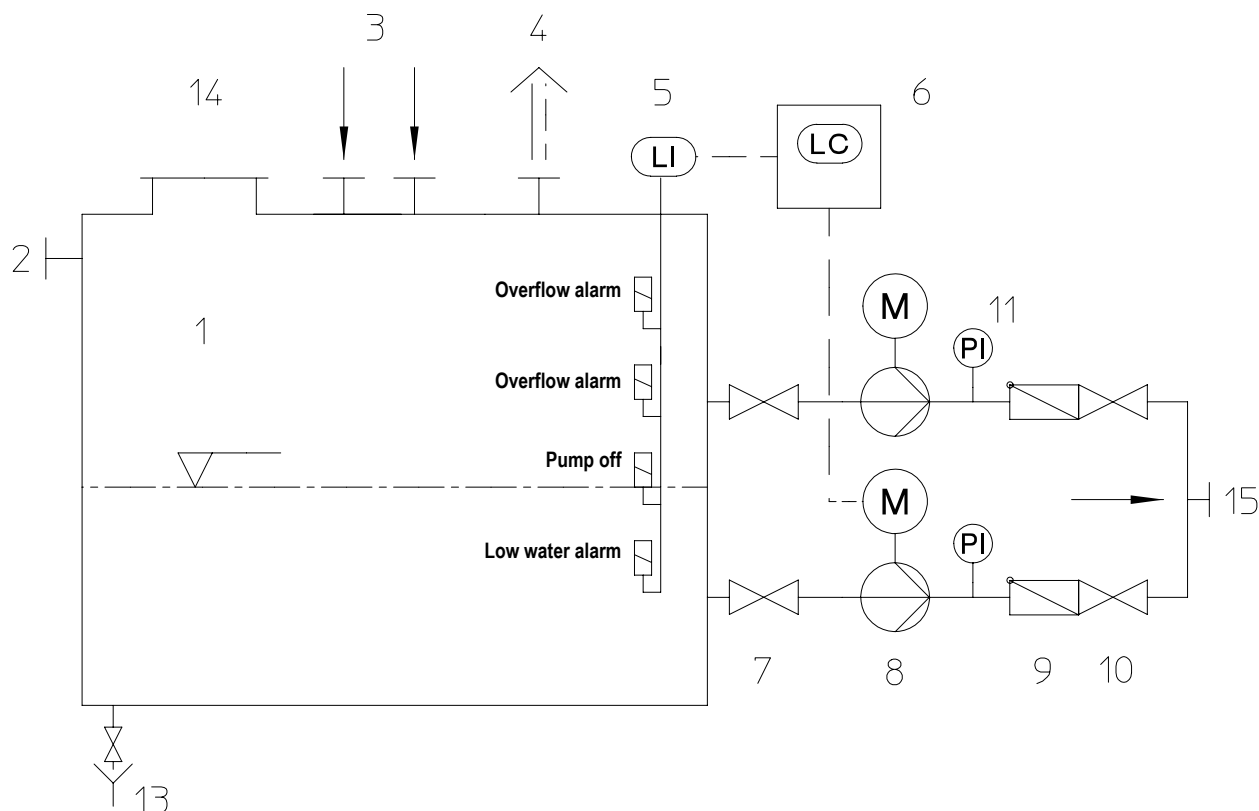
ARI-CORsys®-SSt Standard design made of stainless steel



(Example version)

Dimension and weights

Typ	Volume	L1	L2	H1	H2	B1	Weight
	(Ltr.)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)



Pos.	Description	Material			
		PN16 - 12.CRS	PN16 - 22.CRS	PN16 - 32.CRS	PN16 - 52.CRS
1	Receiver	S235JRG2, 1.0038 / P250GH, 1.0460			X5CrNi18-10, 1.4301
2	Overflow (to the outside)	P235TR2, 1.0255 / P250GH, 1.0460			X6CrNiTi18-10, 1.4541
3	Condensate feed (the number of receiver connections varies in accordance with the size of the receiver)				
4	Vapour pipe connection (vent to the outside)				
5	Level measuring	Sst / Polymer			SSt / Polymer
6	Liquid level controller	Al / Polymer-Gehäuse			
7	Stop valve, Suction side (ARI EURO-WEDI)	EN-JL1040, EN-GJL-250			GX5CrNiMo19-11-2, 1.4408
8	Low-NPSH-pump	EN-JL1030, EN-GJL-200 / X5CrNi18-10, 1.4301	EN-JS1050, EN-GJS-500-7 / X5CrNi18-10, 1.4301		X5CrNiMo17-12-2, 1.4401
9/10	Stop valve, Pressure side ARI-STOBU with non-return function (LK+F)	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
11	Pressure gauge, complete	St / SSt			
13	Drain to the outside	St / SSt			
14	Inspection opening	P235TR2, 1.0255 / P250GH, 1.0460			X6CrNiTi18-10, 1.4541
15	Outlet				
	Pipes / flanges				

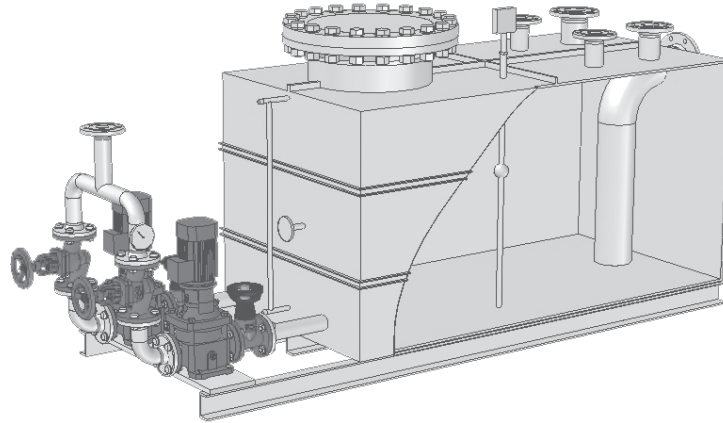
Information / restrictions in the technical rules must be observed!

Permissible operating temperature 95 °C, receiver pressure atmospheric, pump pressure side max. pressure load, see delivery head diagram..

Application

The ARI condensate recovery and return station is used in steam systems and serves to return the accruing condensate for reuse. The condensate pumps that are used remove the condensate from the receiver and transport it back to the boiler installation.

The station is a compact installation premounted on a base frame and consists of high-quality individual components. An On/Off water level control with a safety switch for dry unning and high water protection guarantees safe operations. The pump's output is controlled in dependence on the level in the receiver. Recirculation protection is ensured through the installation of check valves. The strainers that are fitted provide additional security.



Example version

PED 2014/68/EU, MD 98/37/EC, EMC 89/336/EEC, LVD 73/23/EEC

Evaluation in accordance with PED 2014/68/EU (Fluid Group 2)

The evaluation of an installation (assembly of pressure vessels) is aligned to the correspondingly highest category of an installation component 2. Art. 10 Paragraph 2. If all the individual components of a subassembly fall under Art. 3.3 (sound engineering practice), the installation may not display a CE mark in accordance with PED. If the subassembly falls to the maximum under Category I and under Article 1, Paragraph 3.6, the subassembly does not fall under the Pressure Equipment Directive.

Declaration of conformity/manufacturer's declaration: See the last page in the current operating instructions for the above-mentioned EC Directives.

Operating instructions can be ordered by phone (+49 52 07) 994-0 or fax (+49 52 07) 994-158 or 159.

Ausführungen

Code	Design	Type	
		CRS-St	CRS-SSt
A	Without controller Receiver only with fittings and pumps	O	O
B	Level electrode + pump controller Completely wired with the switchgear cabinet	O	O
C	Inspection glass liquid level indicator + electromagnetic switch Completely wired with switchgear cabinet	O	O
D	Controller assembly kit Level electrode premounted and enclosed with pump controller	O	O
E	Controller assembly kit Inspection glass liquid level indicator + electromagnetic switch premounted	O	O
J	Receiver made of S235JRG2 (St37) zinc coated	X	
K	Receiver material 1.4301		X
L	Receiver material 1.4571		O
M	Receiver non insulated	X	X
O	Receiver insulated via factory	O	O
P	Receiver with insulation bracket	O	O
S	One Low NPSH pump (single)	O	O
T	Two Low NPSH pumps (twin)	X	X

X = Standard design / O = Special design

Receiver volume = 1/4 to 1/3 of the accruing condensate volume
 Pump output = 2 to 3 times the accruing condensate volume

System code:

Type ARI-32.CRS-R (PN16 standard)
 ARI-52.CRS-R (PN16 stainless steel)
 Type of pump CR3 - 15 Low NPSH-Pumpe (see diagram on page 6-7)
 Special design Code A to T (see page 4)

Example:

Condensate volume 2700 liter/h, Delivery head 20 m, Receiver material stainless steel 1.4571, two pumps

Type 52 - CRS-R 10 - T - L Condensate recovery and return station
 - Type 52-CRS-R 10 (receiver volume 1000 litres)
 - Receiver made of material 1.4571 (Code G see page 4)
 - Two pumps (Code T see page 4)
 - Low NPSH pump CR5-5, 6.5 m³/h, 20 m delivery head (see page 6)

Please indicate when ordering:

1. **ARI-CORsys®** Type _____
 z.B. Type 52 - CRS-R10 - T - L
2. Condensate volume _____ (m³/h)
3. Pump delivery head _____ (m)
4. Connection Feed DN _____, number _____; Vapour pipe PN16 DN _____; Overflow PN16 DN _____;
 Pressure side (outlet) PN16 DN _____
5. Receiver volume _____ (l)
6. Receiver shape round lying
7. Pump design _____ see diagram, output curve
8. Length of vapour pipe _____ (m)
9. Power supply for pump _____ (V), _____ (Hz), protection class _____ (standard IP54)
10. Dimension of installation location (if known) _____ (m) / _____ (m) / _____ (m)
 (clearance to wall or room dimensions)
11. Design deviation from standard _____ Code A to P (see page 4)
12. Material

Low-NPSH-pump	<input type="checkbox"/> EN-JL1030/1.4301 (GG/stainless steel)
	<input type="checkbox"/> EN-JS1050/1.4301 (GGG/stainless steel)
	<input type="checkbox"/> 1.4401 (stainless steel)
Valves	<input type="checkbox"/> EN-JL1040
	<input type="checkbox"/> EN-JL1049
	<input type="checkbox"/> 1.4408

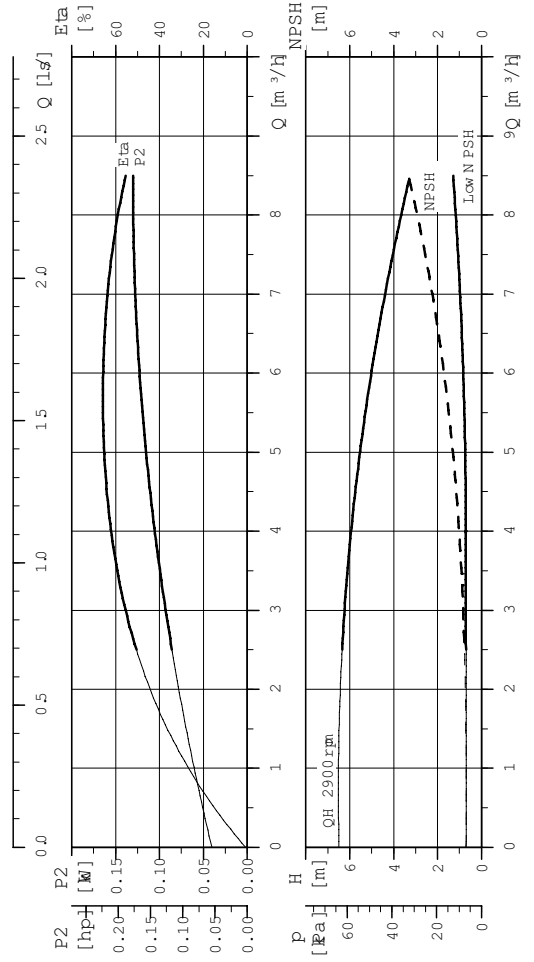
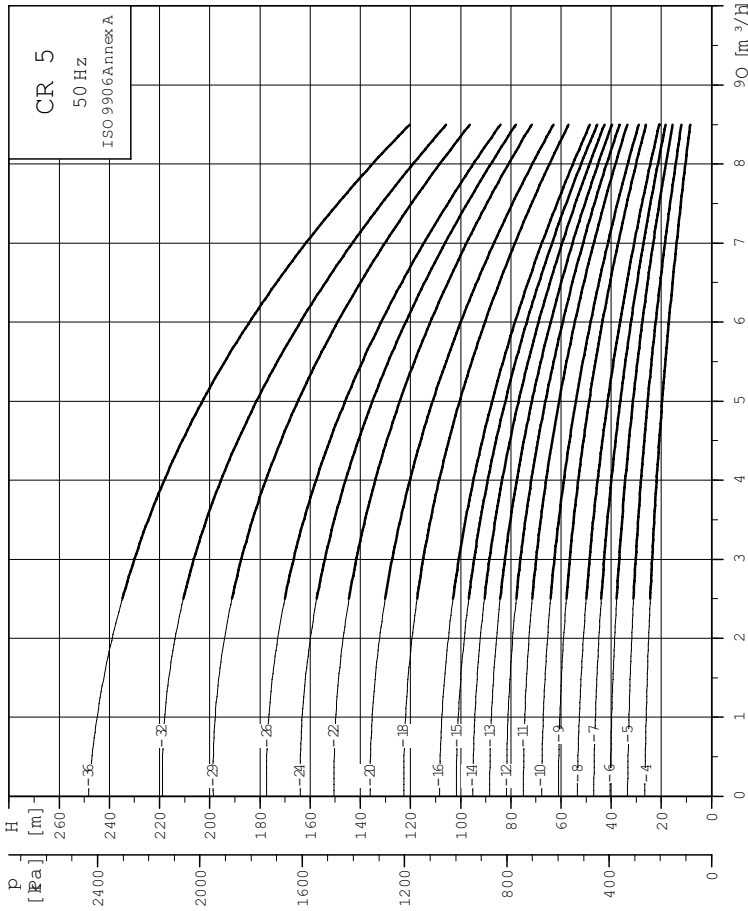
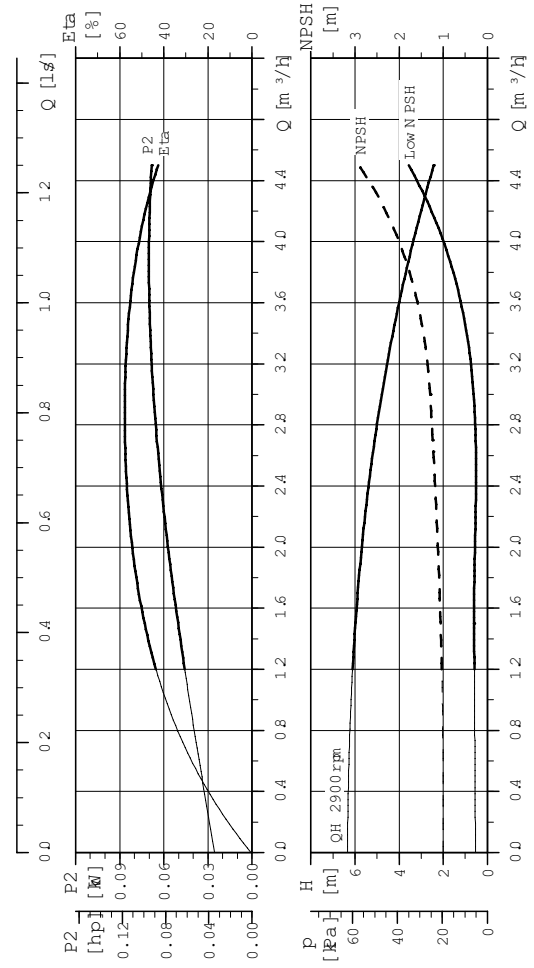
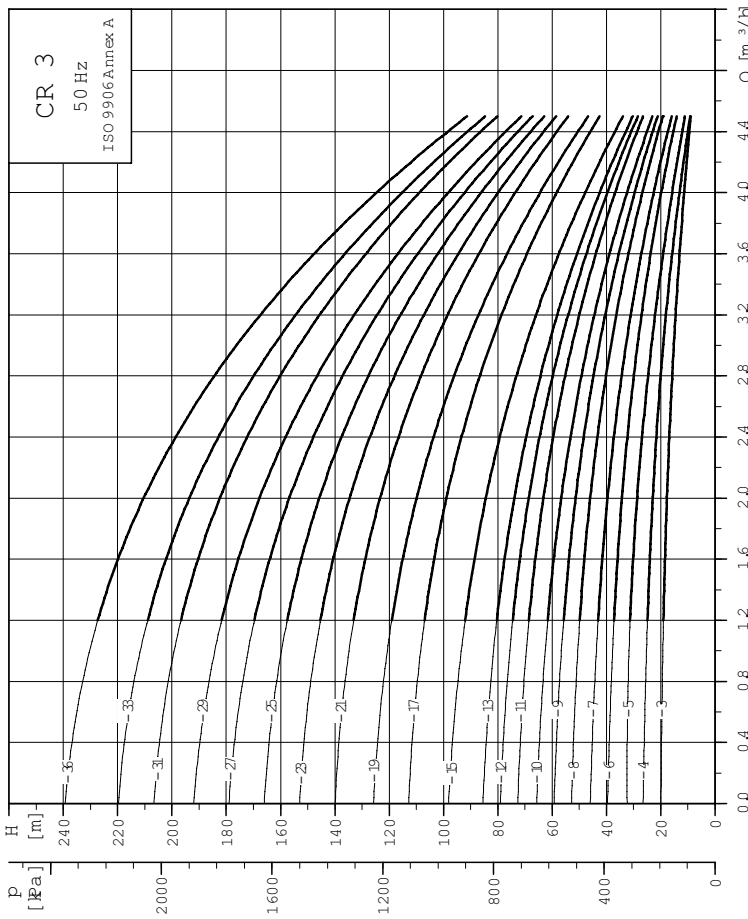
Diagram Low-NPSH CR5

Diagram Low-NPSH CR3


Diagram Low-NPSH CR10

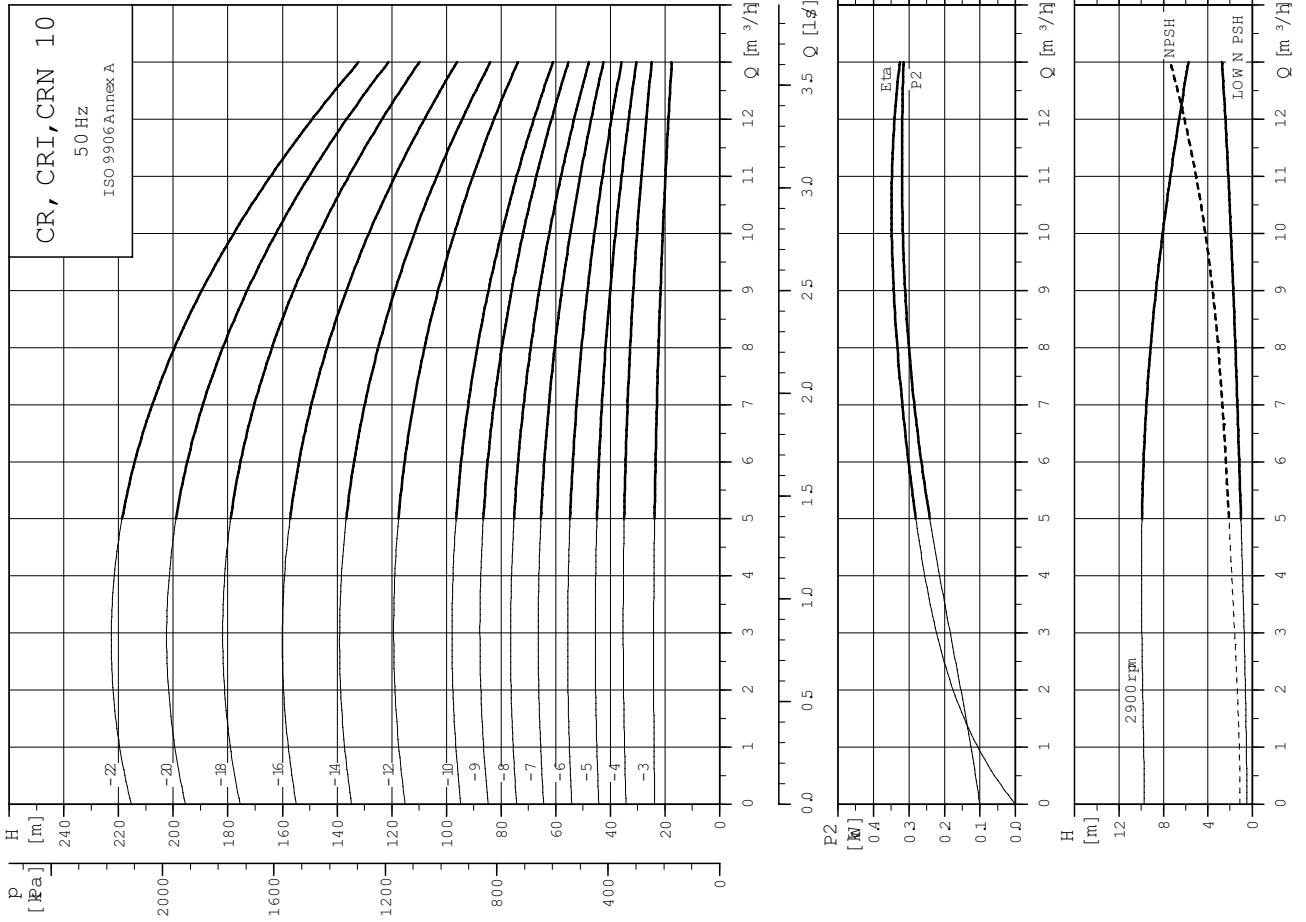
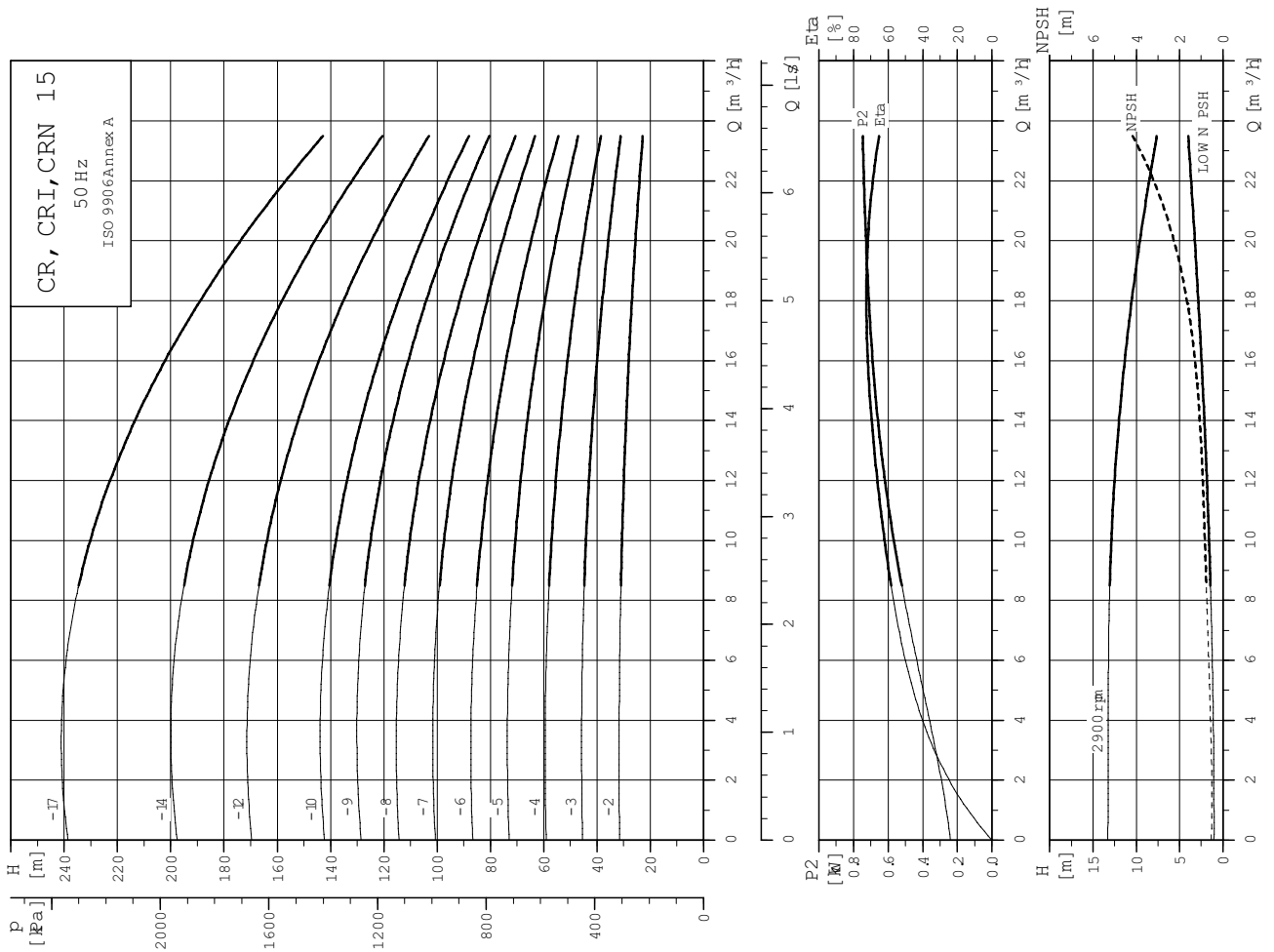


Diagram Low-NPSH CR15





Technik mit Zukunft.
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