

GESTRA Steam Systems

Product Range C6

Drier and Purifier

Type TP
For Compressed Air and Gases
DN 15 – 500 (½" – 20")
TP

Description

Drying and cleaning of compressed air and gases by mechanical separation of liquids, mists and dirt particles.

Application in pipelines immediately downstream of aftercoolers of compressors or upstream of the first air distributor, in compressed-air ring lines, in branch lines leading to special separators, such as water adsorbers, oil adsorbers or immediately upstream of the compressed-air user (compressed-air tool).

Function

The TP can either dry and clean the air simultaneously or act solely as air drier or as air purifier. It has a very high separation effect, requires no maintenance and little space.

The wet, unpurified air or gas enters the drier, flows down the guide element in a spiral motion and, after a rotation through 180° above the sump-covering plate, passes to the outlet. The resulting centrifugal forces, as well as the impact and swirling effects, separate the particles with a heavier specific gravity, such as liquids, moisture in suspension, dirt, scale etc. from the lighter fluid air or gas. The separated particles are deposited in the sump. The abrupt rotation of the gas flow from one passage of the helix to the other prevents the particles from being carried back in the gas flow.

Design

The air/gas drier and purifier has no moving parts. The guide element, a two-start helix is welded to the body. One passage of the helix is joined to the inlet and the other to the outlet port.

The body is welded electrically. Connections in-line, but also with elbow for vertical inlet/horizontal outlet or vice versa; direct vertical inlet also possible.

The guide element is individually dimensioned in accordance with the operating conditions. Sump covering plate. Socket for drain connection.

Manufacture in accordance with the standards set up by VdTÜV (German Technical Supervisory Association), Lloyd's Register of Shipping, Det Norske Veritas, American Bureau of Shipping, Bureau Veritas, Germanischer Lloyd etc.

Range

PN (nominal pressure) according to requirements and material used

up to:

Max. service pressure 64 bar g (930 psi g)

Max. temperature 100 °C

Higher pressures and temperatures on request.

NGr No.

15 – 500 and higher

indicates the size of the guide chamber to produce the optimum separation effect for the operating conditions, and is independent of the pipe size.

Connections

Flanges to DIN, ANSI, screwed connections or butt-weld ends.

Materials

St 37.0, S235JRG2

St 35.8, P265GH

1.4541 (V2A)

1.4571 (V4A)

or high grade steel according to request and requirements.

End Connections

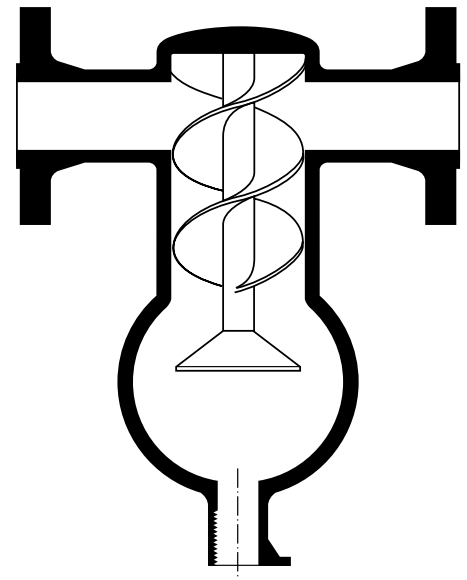
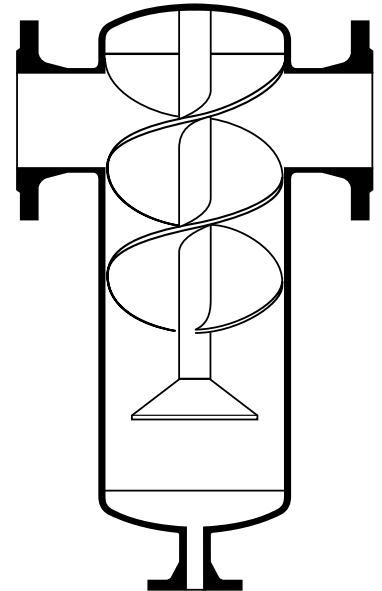
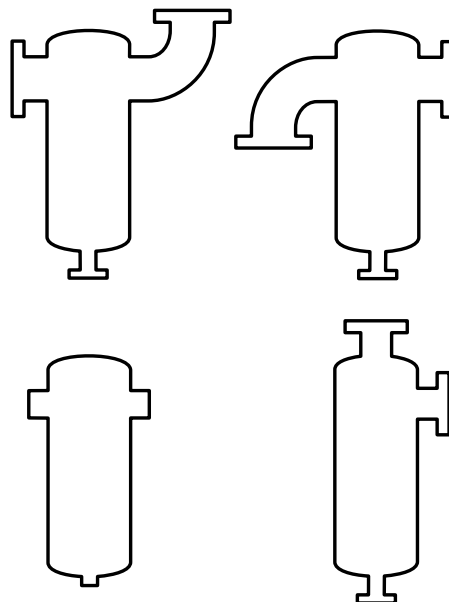
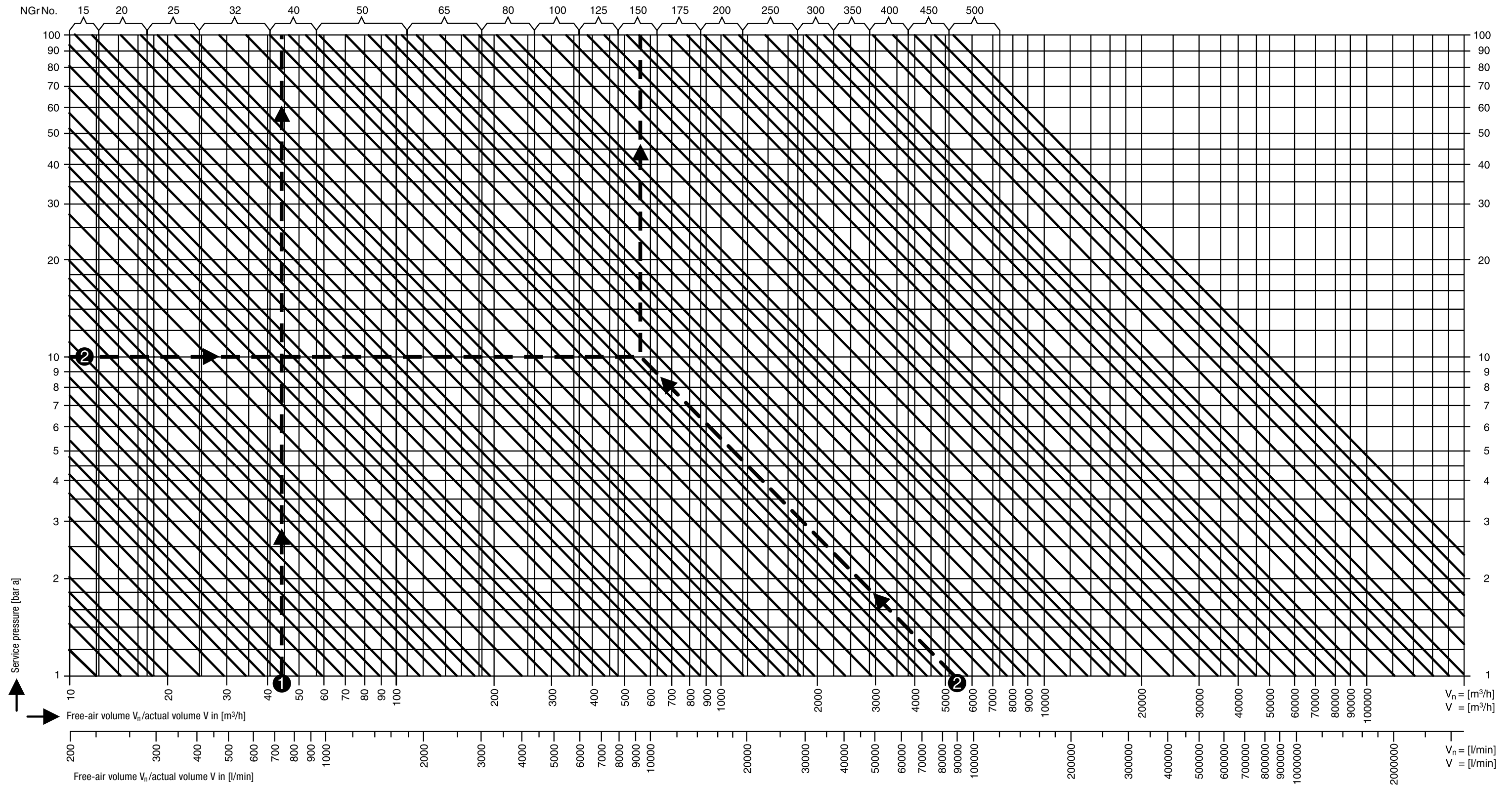


Chart for determining the NGr No.



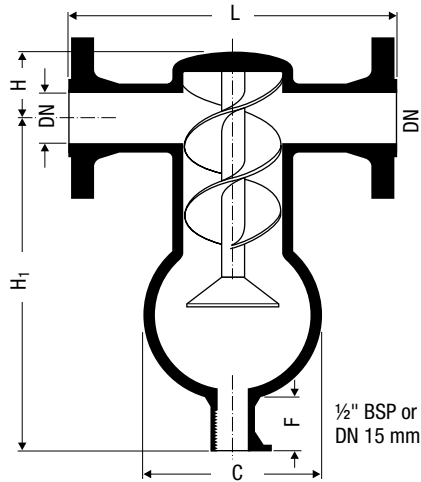
The chart is based on an air temperature of 25 °C. A temperature variation of 10 K (deg C) produces a change in the air volume of approx. 3%. (At 45 °C, for example, the volume increases by approx. 6 %).

Example 1
 Given: Actual volume $V = 44 m^3/h$
 Choose NGr No. 40
 (by drawing a vertical line from the volume upward)

Example 2
 Given: Free-air volume $V_n = 5100 m^3/h$
 Service pressure $p = 10 bar (a)$
 Choose NGr No. 150
 (by drawing a line from the volume to the service-pressure line in the chart and from the point of intersection vertically upward)

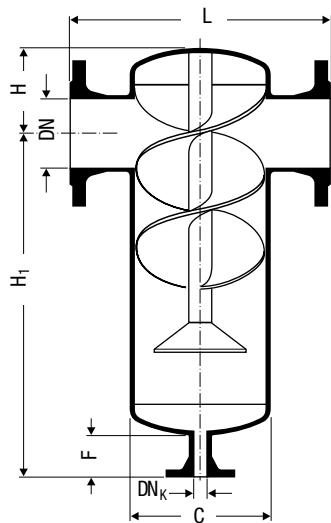
Drier and Purifier
Type TP
For Compressed Air and Gases
DN 15 – 500 (½" – 20")

Dimensions



Drier/purifier – design A
DN 15 – 50 mm (½" – 2")

PN according to requirements and material used



Drier/purifier – design B
DN 15 – 500 mm (½" – 20")

PN according to requirements and material used

Supply in accordance with our general terms of business.

Dimensions

Design A

NGr No.		15	20	25	32	40	50
DN*)	[mm]	15	20	25	32	40	50
	[in]	½	¾	1	1¼	1½	2
Dimensions in mm	L	210	220	220	220	270	270
	H	38	38	40	45	50	50
	H ₁	300	300	320	315	380	380
	C~	100	100	120	120	150	150
	F	70	70	70	70	70	70
Volume	l	0.6	0.6	1.2	1.2	2.3	2.3

Design B

NGr No.		15	20	25	32	40	50
DN*)	[mm]	15	20	25	32	40	50
	[in]	½	¾	1	1¼	1½	2
DN _k	[mm]	15	15	20	20	25	25
	[in]	½	½	¾	¾	1	1
Dimensions in mm	L	210	220	220	220	270	270
	H	80	80	95	95	120	130
	H ₁	308	308	385	385	370	360
	C~	60	60	76	76	114	114
	F	70	70	70	70	70	70
Volume	l	0.6	0.7	1.4	1.5	3.6	3

NGr No.		65	80	100	125	150	175	200
DN*)	[mm]	65	80	100	125	150	175	200
	[in]	2½	3	4	5	6	7	8
DN _k	[mm]	15	15	20	20	25	25	25
	[in]	½	½	¾	¾	1	1	1
Dimensions in mm	L	320	360	410	440	500	550	650
	H	140	150	165	190	215	235	260
	H ₁	460	500	570	660	740	870	1055
	C~	168	194	220	245	273	324	356
	F	70	70	70	70	70	70	70
Volume	l	10.6	14.7	22.9	34	49	78	1

NGr No.		250	300	350	400	450	500
DN*)	[mm]	250	300	350	400	450	500
	[in]	10	12	14	16	18	20
DN _k	[mm]	25	25	40	40	40	40
	[in]	1	1	1½	1½	1½	1½
Dimensions in mm	L	710	830	860	1080	1200	1310
	H	320	385	430	495	513	580
	H ₁	1170	1345	1490	1680	1890	2140
	C~	410	500	600	700	800	900
	F	70	70	70	70	70	70
Volume	l	178	318	506	767	1102	161

*) Nominal sizes can be supplied to suit the pipe sizes

Order Specifications

Air pressure and temperature at the point of installation.
 Maximum and minimum flowrate in m³/h for continuous operation, in m³/min for intermittent operation.
 Application of the air/gas drier and purifier, type of air user, connection, position of inlet and outlet.

Recommended Accessories

To be able to discharge the liquid and particles separated from the air, the TP should be equipped with a GESTRA float trap, e.g. UNA 13 Pv – PN 16, UNA 23 v – PN 16, UNA 26 v – PN 25/40 or UNA SPECIAL – PN 63.
 For further details, see separate data sheets.

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