



TEC ARTEC DESUPERHEATER – HIGH PRESSURE – EN STANDARD

235/1-001

Model TECtemp HD

Introduction: *The TECtemp HD desuperheater combines water control, atomization and a tight shut-off in one valve. The largest possible number of nozzles and the unique design of the internal parts allow precise control of almost all application scenarios. The TECtemp HD offers maximum safety together with a long service life due to the one-piece and forged body design. Typical installations: Final and interstage superheaters on steam boiler, process steam generation, turbine bypass, cooling and condensing process of chemicals (e.g. ammonia, propylene), LNG.*

Product description:

Injection lance with integrated water control, spray, and shut-off function. Valve opening by quarter turn (90°) of the stem. Pure metal-to-metal ball/seat design with lasting low leakage risk, long service life and low life cycle costs. Optimum water injection with finest spray due to constant pressure difference at the injection nozzles over the entire control range. Turn down ratio up to 250:1. Sequential nozzle opening for optimum evaporation conditions and avoidance of thermal shocks.

Standards:

- Design according EN 12516; EN 12952; PED 2014/68/EU; others on request
- Standard flange according EN 1092-1/ EN 1759-1/ DIN 2696; others on request

Tests/Acceptances:

- EN 12266-1, PED 2014/68/EU, EN 60534-4; others on request

Features:

- Up to 24 sequential opening nozzles
- One-piece forged body design
- For steam pipes \geq DN80, up to PN400 / Class 2500
- steam temperature up to 610 °C
- Lance length up to 750 mm (longer lengths on request)
- Selectable cooling water connection position (90° steps)
- Single or multi-stage pressure reduction

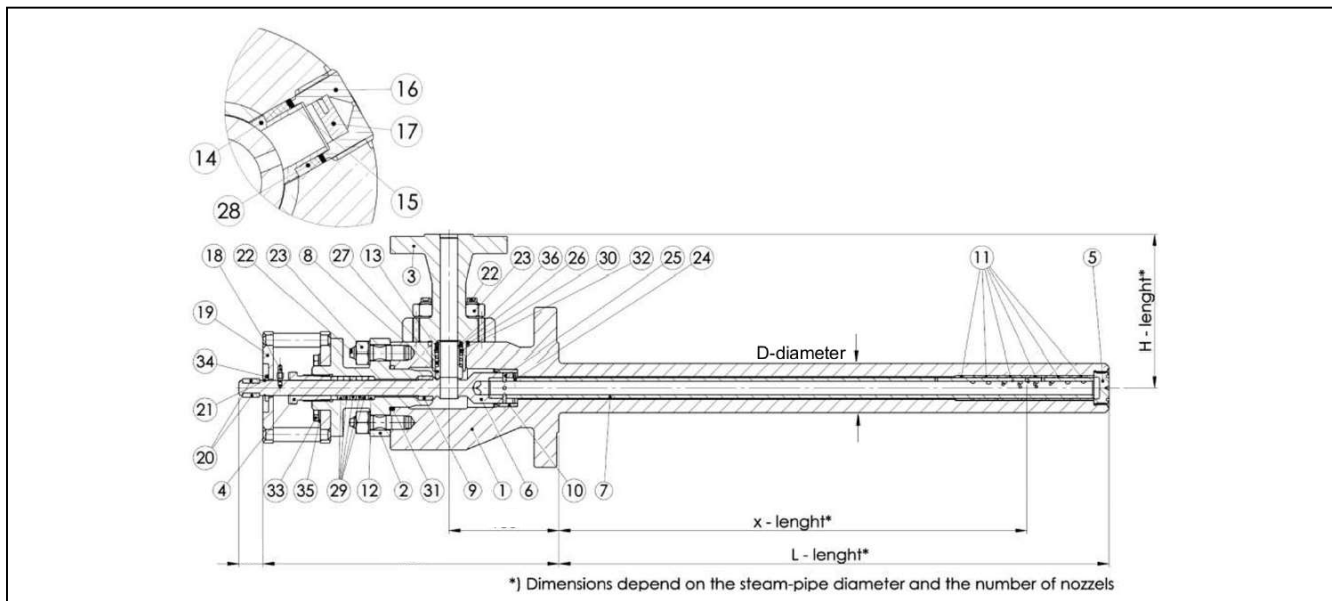
Accessories:

- - Electric actuator with control unit
- - (Electro-)hydraulic actuator
- - Pneumatic actuator with positioner, declutchable manual gearbox, limit switches, air set, etc.
- Counter flanges including bolts, nuts & gaskets
- Strainers, shut-off & check valves, steam traps
- Mixing pipe with thermal shock pipe and connection for pressure & thermal sensors etc. (S.244)
→ see also "other products"



Note:

- The TECtemp HD is also available in ASME Standard (S.235/2-001).
- According to requirements, the TECtemp HD can also be designed differently from the shown below.



Packing list:

1	Body	*	16	Injection nozzle	1.4122 / 1.4923 *
2	Bonnet	*	17	Swirl insert for nozzle	1.4541 *
3	Water inlet flange	*	18	Position indicator	Stainless steel A2-70
4	Packing gland	1.4541	19	Actuator flange	Steel
5	Screw plug	1.5415 / 1.7380 / 1.4903 / Request *	20	Feather keys	Steel
6	Stem upper part	1.4122 / 1.4923 hardened *	21	Snap ring	Spring steel
7	Stem lower part	1.4301 / 1.4923 hardened *	22	Stud bolts	1.7709 / 1.4980 *
8	Seat ring	1.4122 / 1.4923 hardened *	23	Hexagonal nut	1.7218 / 1.4980 *
9	Bearing ring	1.4541	27	Pressure spring	1.4310
10	Bearing bush	1.4541	28	Gasket for nozzle	Graphite 99,85%
12	Base ring	1.4541	29	Packing rings	Graphite 99,85%
14	Bush (nozzle)	1.4122	30	Gasket for spray water flange	Graphite 99,85%
15	Support ring (nozzle)	1.4122	31	Gasket for body/cover	Graphite 99,85%

*) according to design specification

Options:

- Material for Body (1) / Bonnet (2) / Spray water flange (3): 1.0566, 1.0355; 1.0460, 1.4404, 1.4571, 1.4541, 1.5415, 1.7335, 1.7380, 1.4903, 1.4901
- Nozzles (16): Stellite® 6b, nozzle quantity: 6...24 (depending on steam pipe/sleeve pipe diameter and desuperheater size)
- Control curve: Linear, equal percentage or modified
- C_{vs}-Value: 0.009...17.1 m³/h (0,010...19,8 USgal/min)
- Lance diameter "D": 64, 71, 76 or 94
- Spray water flange version (3):
 - DIN EN 1092-1: Nominal diameter DN15 ... 100 / pressure rating PN25 ... 400 / Fig. B1/ B2 or others
 - DIN EN 1759-1: Nominal diameter NPS 1/2" ... 4" / pressure rating CL150 ... 2500 / Fig. B/ J or others
- Steam flange version:
 - DIN EN 1092-1: Nominal diameter DN 50/ 80/ 100/ 125 / pressure rating PN25 ... 400 / Fig. B1/ B2 or others
 - DIN EN 1759-1: Nominal diameter NPS 2"/ 3"/ 4"/ 5" / pressure rating CL150 ... 2500 / Fig. B/ J or others
- Leakage rate:
 - according DIN EN 1349, ANSI FCI 70-2: class IV or V - according DIN EN 12266: classes A, B, C
- Actuator flange (19): EN ISO 5211: F07, F10, F12 or F14
- Corrosion protection: high-temperature Aluminum-pigmented Silicon (standard), special coating (up to C5-M) on request

Other products:

- S.235/2-001 TECtemp HD: Desuperheater - ASME Standard
- S.234 TECtemp: Desuperheater for less demanding applications than S.235
- S.236 TECtemp HT-L: Desuperheater - lance type
- S.237 TECtemp HT-R: Desuperheater - ring type
- S.238 TECtemp HT-V: Desuperheater - venturi type
- S.239 TECtemp FN: Desuperheater fixed nozzle version
- S.242 TECsteam: Motive steam desuperheater
- S.244 TECmix: Mixing pipe with thermal shock sleeve pipe for steam attemperation

