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Injection head (drive-steam type)





Injection head (drive-steam type) DN 20 and 25 PN 25 to 100

Description

VHP is a device designed to regulate the temperature of the steam. VHP is equipped with Laval nozzle which sprays the injection water with the aid of kinetic energy of drive steam expanding in the nozzle. The used design enables creating tiny spray drops even with the minimum flow rate of cooling water which mostly depends on a rangeability of control valve piped before the injection head. VHP is supplied with flanged possibly welded connection with connection flange of DN 80 to the steam pipeline. The other dimensions (B, C, DN and PN of Flange 2 and 3) are subject to customer's requirements and must be clarified in the purchase contract.

Application

VHP is designed for precise and economic injection of cooling water into steam. VHP is especially designed for industrial applications such as production of low-pressure steam or steam production in technology.

Process media

VHP is designed to inject cooling water without mechanical impurities. Application of VHP for other process media must be considered with regard to the used material that is in contact with medium and it is recommended to consult it with the producer.

Installation

VH must be installed into pipeline always the way so that the flow of cooled medium will coincide with the arrows indicated on the flange No. 1. As far as the dismantling is considered, it is recommended to leave free space of min. height that is equal to the distance between flange lower edge and end point of body bent (length "L"). VHP can be piped in horizontal, vertical or inclined pipeline in any position.

Technical data

Series	VHP		
Execution	Injection head with Laval nozzle		
Nominal diameter	Flange 1 ... 80; flange 2 and 3 ... 20 and 25		
Nominal pressure	25 to 100		
Operating temp. range	-20 to 400°C		-20 to 550°C
Flange material DN 20, 25 and 80	Cast steel 1.0425		Alloy steel 1.7335
Body material	Cast steel 1.0425		Alloy steel 1.7335
Pipe material	Cast steel 1.0425		Alloy steel 1.7335
Nozzle material	Alloy steel 1.7733		
Connecting dimensions (flanges / weld ends)	Acc. to ČSN EN 1092-1 (2/2003) / ČSN EN 12627 (8/2000) *)		

*1) Dimensions and type of connection (flange / weld) acc. to customers requirements. It shall be specified in the order.

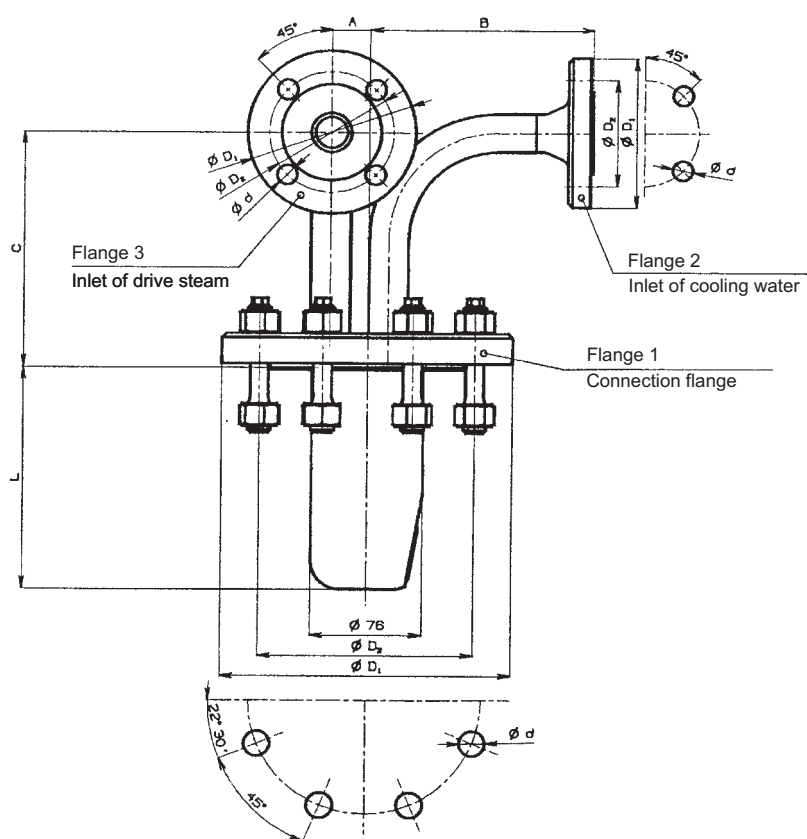
Max. permissible operating pressures [Mpa]

Material	PN	Temperature [°C]								Testing pressure at 20°C
		200	250	300	350	400	450	500	550	
Cast steel 1.0425	25	1,78	1,62	1,47	1,37	1,32	---	---	---	3,80
	40	2,84	2,60	2,35	2,19	2,11	---	---	---	6,00
	63	4,48	4,09	3,71	3,45	3,33	---	---	---	9,50
	100	7,11	6,50	5,89	5,48	5,28	---	---	---	15,0
Alloy steel 1.7335	25	---	---	2,08	1,93	1,80	1,67	1,39	0,55	5,30
	40	---	---	3,33	3,09	2,89	2,67	2,23	0,88	8,40
	63	---	---	5,24	4,86	4,55	4,20	3,51	1,39	13,0
	100	---	---	8,32	7,71	7,22	6,67	5,57	2,21	21,0

Connection dimensions

Flange 1					Flange 2 and 3					A	B _{min}	C _{min}	L
PN	DN	D ₁	D ₂	d	PN	DN	D ₁	D ₂	d				
mm					mm					mm	mm	mm	mm
100	80	230	180	26	25	20	105	75	14	24	150 *)	150 *)	156
						25	115	85					
					40	20	105	75	14				
						25	115	85					
					63	20	130	90	18				
						25	140	100					
100	20	130	90	18									
	25	140	100										

*1) Dimensions and type of connection (flange / weld) acc. to customers requirements. It shall be specified in the order.



Complete specification No. for ordering VHP

		XXX	XX	XX	/	XX	/	XX	-	XXX	X
1. Series	Injection head	VHP									
2. Nozzle diameter	10		10								
3. Nominal diameter	Flange 1	DN 80	(connection flange - steam pipeline)			80					
	Flange 3	DN 20	(inlet of drive steam)				20				
		DN 25					25				
Flange 2	DN 20	(inlet of cooling water)					20				
	DN 25						25				
5. Nominal pressure	PN 25									025	
	PN 40									040	
	PN 63									063	
	PN 100									100	
5. Body material	Cast steel 1.0425	(-20 to 400°C)									1
	Alloy steel 1.7335	(-20 to 550°C)									2

Ordering example : Injection head, flange 1 DN 80, flange 2 DN 25, flange 3 DN 20, PN 40, body material: cast steel 1.0425 is specified as follows : **VHP10 80/25/20-040 1**



LDM, spol. s r.o.
Litomyšlská 1378
560 02 Česká Třebová
Czech Republic

tel.: +420 465 502 511
fax: +420 465 533 101
E-mail: sale@ldm.cz
<http://www.ldm.cz>

LDM, spol. s r.o.
Office in Prague
Tiskařská 10
108 28 Praha 10 - Malešice
Czech Republic

tel.: +420 234 054 190
fax: +420 234 054 189

LDM, spol. s r.o.
Office in Ústí nad Labem
Mezní 4.
400 11 Ústí nad Labem
Czech Republic

tel.: +420 475 650 260
fax: +420 475 650 263

LDM servis, spol. s r.o.
Litomyšlská 1378
560 02 Česká Třebová
Czech Republic

tel.: +420 465 502 411-3
fax: +420 465 531 010
E-mail: servis@ldm.cz

LDM, Polska Sp. z o.o.
Modelarska 12
40-142 Katowice
Poland

tel.: +48 32 7305633
fax: +48 32 7305233
mobile: +48 601 354999
E-mail:
ldmpolska@ldm.cz

LDM Bratislava s.r.o.
Mierová 151
821 05 Bratislava
Slovakia

tel.: +421 2 43415027-8
fax: +421 2 43415029
E-mail: ldm@ldm.sk
<http://www.ldm.sk>

LDM Vertriebs- und Produktions-GmbH
Partner der Versorgungstechnik
Kirschenrain 13
71126 Gäufelden
Germany

tel.: +49 7032 9109573
fax: +49 7032 9109574
E-mail: vertrieb@ldm-ventile.de

LDM - Bulgaria - OOD
z. k. Mladost 1
bl. 42, floor 12, app. 57
1784 Sofia
Bulgaria

tel.: +359 2 9746311
fax: +359 2 9746311
GSM: +359 88 925766
E-mail: ldm.bg@mbox.cit.bg

Your partner