

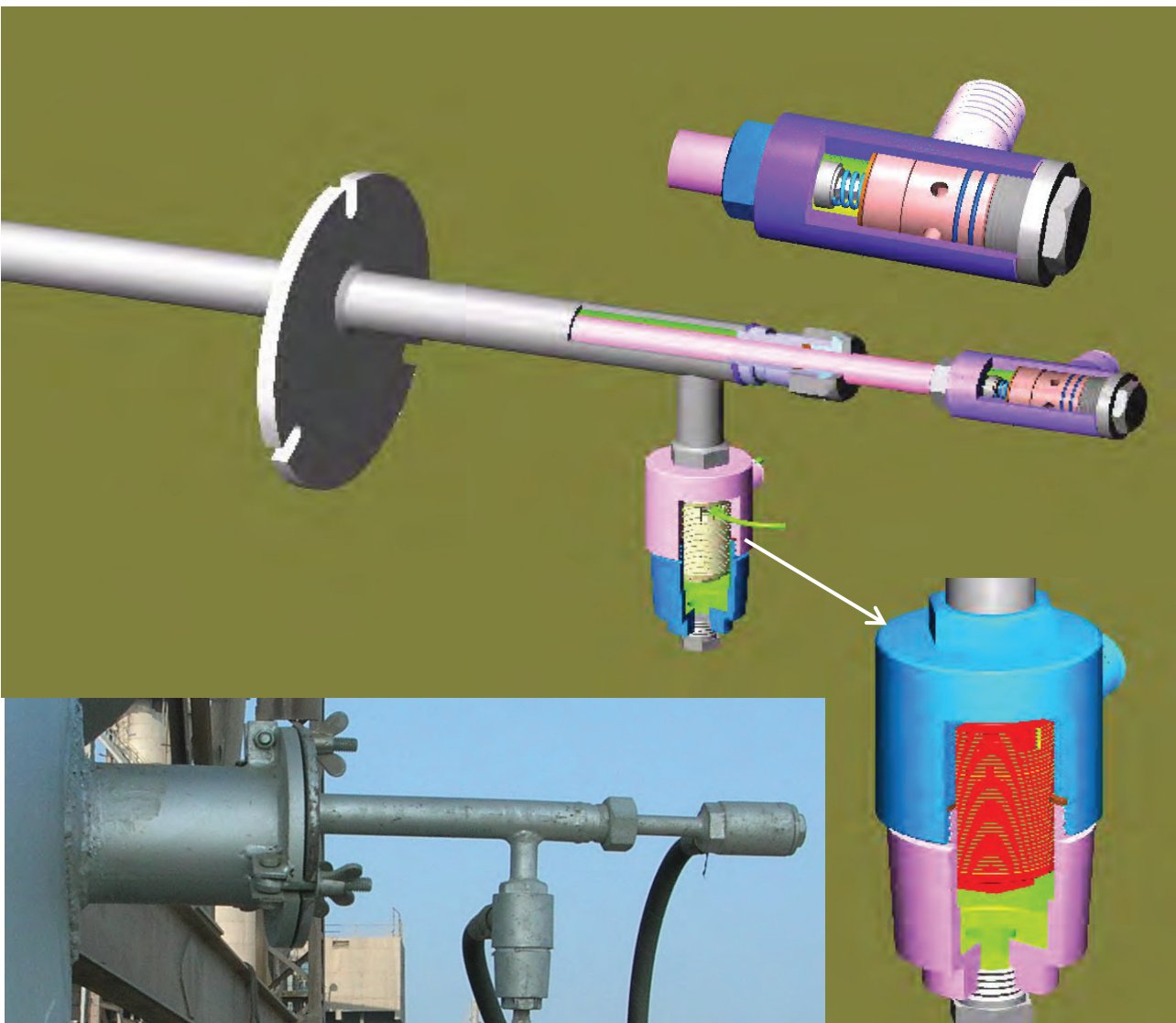
NASEQUIP

**HIGH PERFORMANCE LANCES
FOR
EVAPORATIVE GAS COOLING**



NASEQUIP High Performance lances are designed to outperform the competitive products and have added features, which make them unique in their class. The most important of these is the special design of the nozzle which makes it the only lance of its kind which never jets in case the supply line is fully choked. These lances are used for various applications for spraying liquids for gas cooling in conditioning towers, top cyclone, Downcomer ducts, Clinker cooler etc. in cement plants as well as similar applications in steel industry. The following are the major features of the NASEQUIP High Performance lances which make them unique in nature.

- 1 Unique **NON-JETTING** design of the spillback nozzle series APQ/AP2 which allows the nozzle to continue to spray with good pattern and coverage even if the supply filter in the lance is fully blocked and the NRV on the return line is passing.
- 2 Integral Micro-basket strainer with non-clogging V-slot filter element in the Lance inlet connection
- 3 Inbuilt puppet type non-return valve in the lance return line
- 4 Lightest single nozzle lance and cluster lance designs, making the system maintenance & user friendly.
- 5 Common mounting flange design which accommodates both single nozzle lances as well as standard cluster lances
- 6 Zero leakage tongue & groove sealing arrangement between the lance & mounting flange.
- 7 Unique user friendly lance clamping system with three Swing bolts & wing nuts.
- 8 Unique design of the spillback nozzle series APQ & AP2 makes it possible to take out the nozzle from the lance as single unit. Wide selection of spillback nozzle capacities ranging from 4 lpm to 70 lpm at 40 bar inlet pressure.
- 9 Screw-on type high pressure Quick release couplings



PRODUCT CODE GUIDE - LANCES

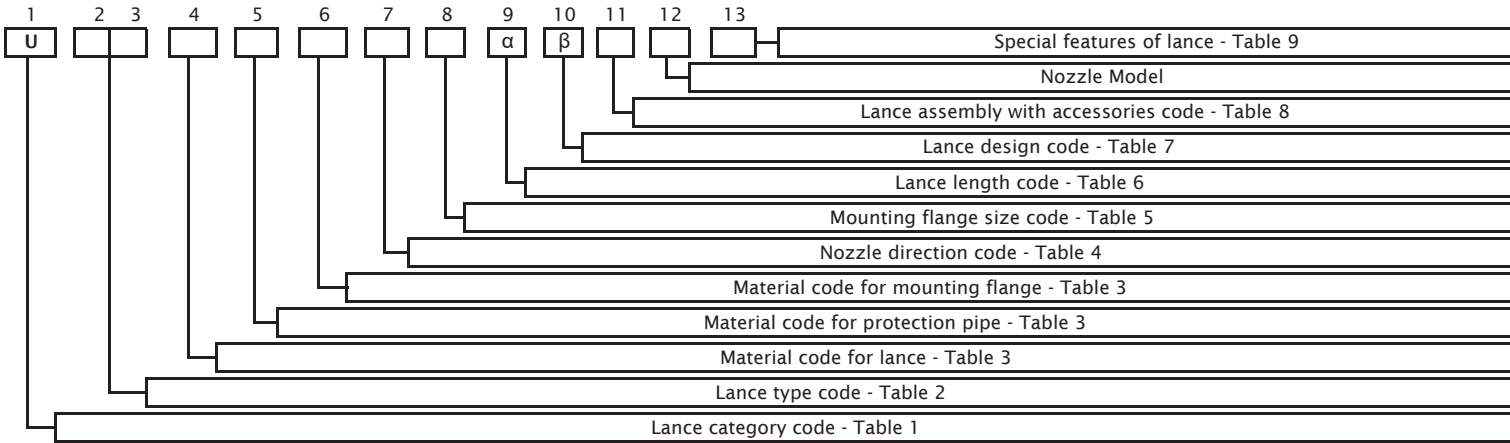


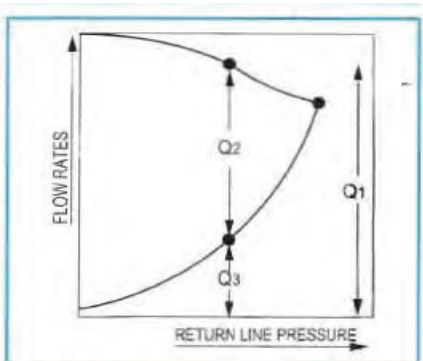
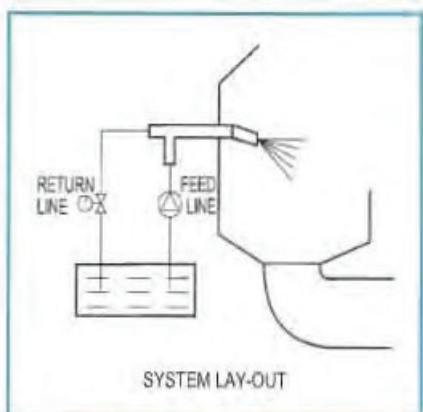
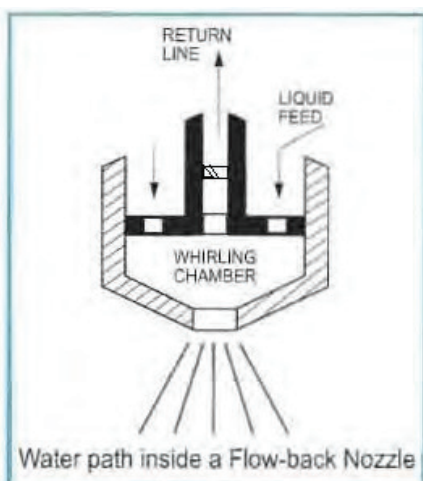
Table 1 : Lance Category codes				Table 5 : Mounting Flange Size codes										
U	Standard Lances			S	Standard 4"NB, 3 bolt type									
Y	Special lances			M	Medium size 6"NB, 3 bolt type									
Table 2 : Lance Type codes/versions				H	Large size 10" NB, 3 bolt type									
S	P	High Performance Spillback Single nozzle lance for Nozzle series AP2		R	Rectangular, 3 bolt type									
S	C	High Performance Spillback Cluster lance standard flow for Nozzle series APQ		X	Others (specified seperately according to drawings)									
S	H	High Performance Spillback Lances, High flow-Cluster design for nozzle series-AP2		Table 6 : Lance length codes (α)										
C	C	High Performance Cooling Lances, standard flow-Cluster design-nozzle series - CMQ		A	L1 = 300mm	L	L1 = 1500mm	W	L1 = 2600mm					
C	H	High Performance Cooling Lances, Highflow-Cluster design-nozzle series - CM2		B	L1 = 475mm	M	L1 = 1650mm	X	L1 = 2700mm					
A	I	Dual Fluid lances for nozzle series MFX - Standard flow		C	L1 = 850mm	N	L1 = 1800mm	Y	L1 = 2800mm					
A	M	Dual Fluid lances for nozzle series MFX - High- flow		D	L1 = 900mm	P	L1 = 1900mm	Z	others					
Table 3 : Material codes/versions				E	L1 = 1000mm	Q	L1 = 2000mm	7	L1 = 750 mm					
A	carbon steel		F	AISI 310		F	L1 = 1100mm	R	L1 = 2100mm	5	L1 = 500 mm			
B	AISI 304		H	Hastelloy C		G	L1 = 1200mm	S	L1 = 2200mm	3	L1 = 1600mm			
C	AISI 316		G	Inconel		H	L1 = 1250mm	T	L1 = 2300mm	6	L1 = 625 mm			
D	AISI 316L		N	specific part is not required		J	L1 = 1300mm	U	L1 = 2400mm	9	L1 = 575 mm			
E	AISI 316 Ti		X	other materials (to be specified)		K	L1 = 1400mm	V	L1 = 2500mm	1	L1 = 650 mm			
Table 4 : Nozzle Direction codes				Table 7 : Lance Design codes (β)										
L	In-line (Straight)		Z	90 ⁰ downwards		R	90 ⁰ downwards		P	adjustable 100 mm		S	Adjustable without sliding pin	
M	60 ⁰ downwards		X	80 ⁰ downwards					Q	adjustable 200 mm				
N	30 ⁰ downwards		P	Others (specify)					R	non adjustable				
Y	45 ⁰ downwards		Q	70 ⁰ downwards										

Table 8 : Lance Assembly with Accessories codes												
code	nozzle set	Inbuilt NRV for water line	Inbuilt filter for water line	water line hoses	QRC for water line hoses	Ball valves for water lines	Protection pipe	Purge air line hose	QRC for purge air line hose	NRV for purge air line	Ball valve for purge air line	
1	Specify nozzle model to include in the assembly	inc	inc	exc	exc	exc	inc					Bare lance with nozzles & protection pipe without accessories
2		inc	inc	exc	exc	exc	exc					lance with (Nozzles), but without accessories
3		inc	inc	inc	inc	exc	exc					lance with (Nozzles) & some accessories
4		inc	inc	inc	inc	inc	exc					lance assembly (with nozzles), complete without protection pipe.
A		inc	inc	inc	inc	inc	inc					lance assembly (with nozzles), complete with protection pipe.
5		inc	inc	exc	exc	exc	inc	exc	exc	exc	exc	Bare lance+nozzles+purge air con.+protection pipe, without accessories
6		inc	inc	exc	exc	exc	exc	exc	exc	exc	exc	lance with purge air connector & (Nozzles), but without accessories
7		inc	inc	inc	inc	exc	exc	inc	inc	inc	exc	lance with purge air connector, (Nozzles) & some accessories
8		inc	inc	inc	inc	inc	exc	inc	inc	inc	inc	lance assembly with purge air connector (with nozzles), complete without protection pipe.
B		inc	inc	inc	inc	inc	inc	inc	inc	inc	inc	lance assembly with purge air connector (with nozzles), complete with protection pipe.
C		inc	inc	inc	inc	exc	inc	inc	inc	inc	exc	lance assembly with purge air connector, complete with nozzles, protection pipe but with out isolation valves
		exc : excluding			inc : including			Not Applicable				

Table 9 : Special Feature	
S	Standard Model
X	Special type, Ref. spec. of Lance Assly.

HIGH PERFORMANCE SPILLBACK LANCES

These spillback lances are the highest lances available in the market for gas cooling applications. These lances are manufactured as a standard in SS 316 material of construction, for high temperature applications these are given in SS 310 or Hastalloy material of construction. Based on the capacity, there are two variants in this range of lances, the standard flow and high flow.



Operating principle

The spillback lances produce atomised spray using the energy of high pressure flow

A typical value of pressure for operation of the nozzle is between 35 to 40 bar and the droplets produced are in the range of 150 to 450 SMD (D_{32})

The spray pattern generated by the nozzle is a hollow cone, the whirling chamber of the nozzle has two outlets, one the actual spray orifice and the other leading towards the return line.

The most important factors of the nozzle design are the orifice diameters in the outward direction & return direction, and this determines the regulation properties of the nozzle i.e. return flow rate, droplet size and spray characteristics.

By means of the regulating valve, the flow rate through the return line can be adjusted from zero to maximum value, thus causing pressure changes in the whirl chamber.

Since the amount of water spray leaving the nozzle through the exit orifice depends on the pressure in the whirl chamber, the regulation valve in the return line directly influences the amount of cooling water atomised in to the GCT.

The Lance and nozzle design allows to infinitely vary the the atomised spray volume, while keeping a constant feed pressure in the lance, using the regulation valve in the return line.

The unique swirling vanes provided in the return path of the NASEQUIP spillback nozzle ensures that the jetting of the nozzle DO NOT take place even if the swirl disc holes are blocked by dirt.

The Flow regulation possible with the spillback nozzles is 1:10

The process can be automatically controlled with the regulation valve in auto operation from a feedback signal from the downstream temperature of the gas stream

Nozzle working diagram

A spillback diagram, similar to the one shown beside is available for each of the spillback nozzles. It gives several curves, each one for a given feed pressure in the lance inlet.

For each curve the total pumped volume, spray flow volume and the return flow volume can be read for a given pressure in the return line.

Along the regulation range, i.e. the pressure in the return line to be read in the x-axis, the following relation is valid.

$$Q_1 = Q_2 + Q_3$$

where Q_1 = total flow pumped in the nozzle

Q_2 = Return flow (spillback flow) from the nozzle

Q_3 = Atomised flow through the nozzle exit orifice

When the regulation valve is fully closed there is no spillback flow. Under this condition, at the nose of the curve, all the pumped flow is atomised and hence:

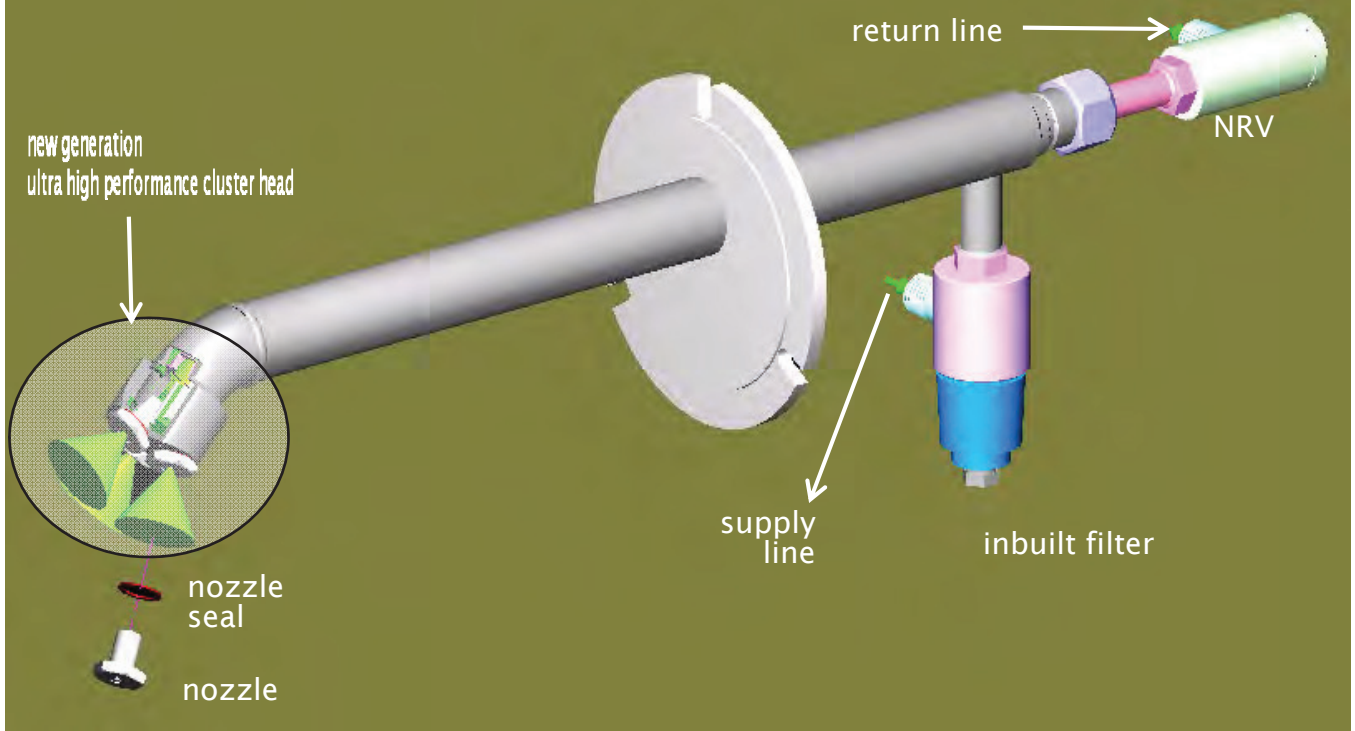
$$Q_{3(\text{maximum})} = Q_1$$

The spillback diagrams for the various nozzles will be available on request.

USC series spillback lances are cluster type, designed to accept nozzle series APQ, while USH series cluster lances accepts AP2 nozzle series. The APQ & AP2 series nozzles can be removed from the lance as a single unit for maintenance. These lances carry 3 numbers of spillback nozzles on the head and are the USC lances are the lightest cluster lance ever built. These lances can be fitted in the same protection pipe of single nozzle lance model USP. The end connection for supply and return for USC lances is 1/2" NPT(M) and are suitable for flow rates upto 60 lpm. The USH lances have end connection of 1" NPT(M) for supply and return and these can permit flow rates up to 160 lpm. **The Nozzle models APQ & AP2 used with these lances are designed NOT TO JET in case the supply holes are blocked due to dirt.** The standard version with carbon steel protection pipe is suitable up to a gas temperature up to 450°C. In the high temperature lances the protection pipes are supplied in SS 304 material, for a gas temperature up to 800°C. For temperatures above this the material of construction of lances and protection pipe will be high temperature steel grade SS 310.

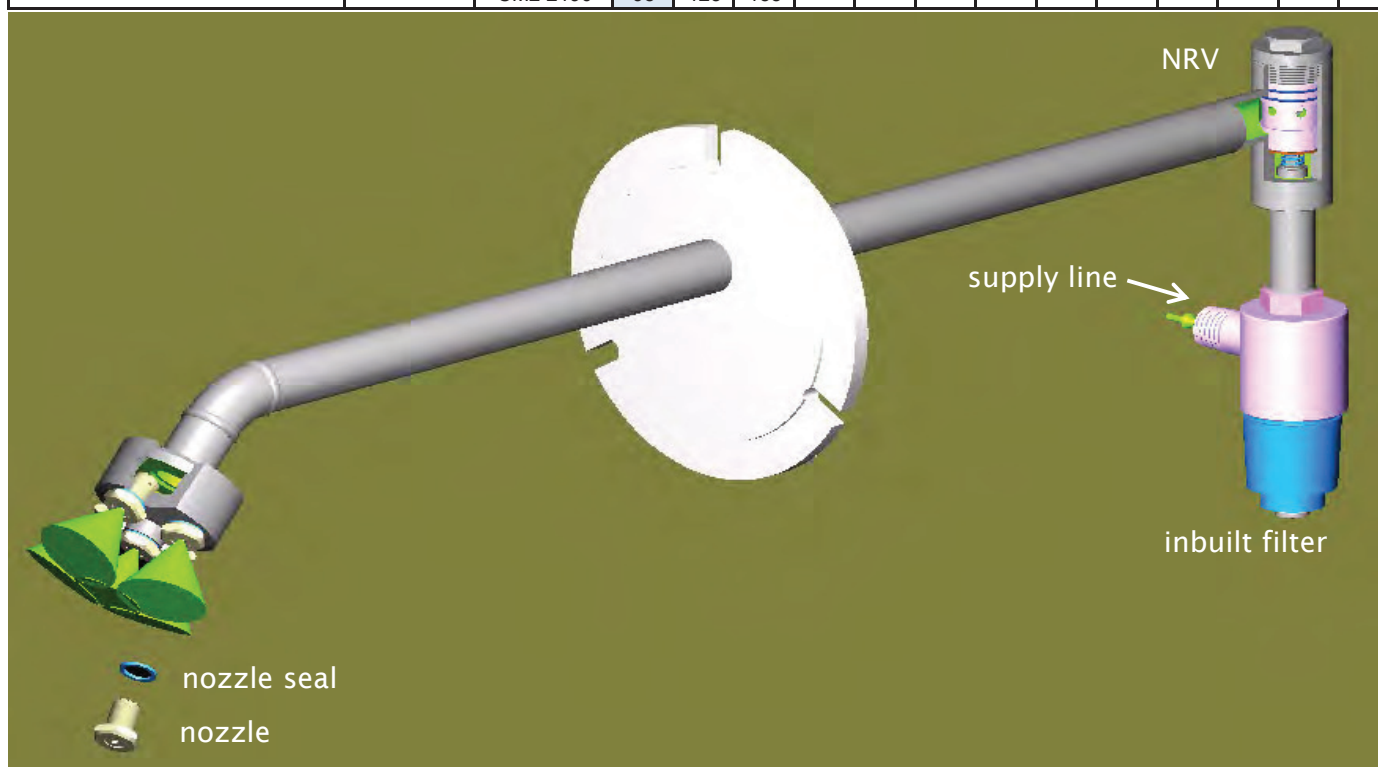
Product code	Water inlet connection	Nozzle model	Flow rate in Lpm at Feed Pressure P1 in Bar.											
			3	5	8	10	12	20	25	30	35	40	45	50
USC Lance with 3 numbers of Spillback nozzle model APQ	1/2" NPT(M)	APQ 1120	3.6	4.6	5.9	6.6	7.2	9.3	10.4	11.4	12.3	13.1	13.9	14.7
		APQ 1150	4.5	5.8	7.3	8.2	9.0	11.6	13.0	14.2	15.4	16.4	17.4	18.4
		APQ 1195	5.9	7.6	9.6	10.7	11.7	15.1	16.9	18.5	20.0	21.4	22.7	23.9
		APQ 1265	8.0	10.3	13.0	14.5	15.9	20.5	22.9	25.1	27.2	29.0	30.8	32.5
		APQ 1360	10.8	13.9	17.6	19.7	21.6	27.9	31.2	34.2	36.9	39.4	41.8	44.1
		APQ 1410	12.3	15.9	20.1	22.5	24.6	31.8	35.5	38.9	42.0	44.9	47.6	50.2
		APQ 1480	14.4	18.6	23.5	26.3	28.8	37.2	41.6	45.5	49.2	52.6	55.8	58.8
USH Lance with 3 numbers of Spillback nozzle model AP2	1" NPT(M)	AP2 1600	18.0	23.2	29.4	32.9	36.0	46.5	52.0	56.9	61.5	65.7	69.7	73.5
		AP2 1700	21.0	27.1	34.3	38.3	42.0	54.2	60.6	66.4	71.7	76.7	81.3	85.7
		AP2 1800	24.0	31.0	39.2	43.8	48.0	62.0	69.3	75.9	82.0	87.6	93.0	98.0
		AP2 1900	27.0	34.9	44.1	49.3	54.0	69.7	78	85	92	99	105	110
		AP2 2100	30.0	38.7	49.0	54.8	60.0	77.5	87	95	102	110	116	122
		AP2 2115	34.5	44.5	56.3	63.0	69.0	89.1	100	109	118	126	134	141
		AP2 2130	39.0	50.3	64	71	78	101	113	123	133	142	151	-
		AP2 2145	43.5	56.2	71	79	87	112	126	138	149	-	-	-
		AP2 2160	48.0	62.0	78	88	96	124	139	152	-	-	-	-
		AP2 2175	52.5	67.8	86	96	105	136	152	-	-	-	-	-
AP2 2190	57.0	73.6	93	104	114	147	-	-	-	-	-	-		

HIGH PERFORMANCE MONOCOOL CLUSTER LANCES



UCC series high performance cluster lances are designed to accept nozzle series CMQ, while UCH lances accepts CM2 nozzles. These lances have integral NRV to ensure that the lance do not drip in case the line is depressurised. These lances carry 5 numbers of high pressure nozzles on the head. The UCC lances have inlet connection of 1/2" NPT(M) and are suitable for a flow rate up to 60 lpm. The UCH lances have inlet connections of 1" NPT(M) and are suitable for flowrates up to 160 lpm. The standard version with carbon steel protection pipe is suitable up to a gas temperature up to 450°C. In the high temperature lances the protection pipes are supplied in SS 304 material, for a gas temperature up to 800°C. For temperatures above this the material of construction of lances and protection pipe will be high temperature steel grade SS 310.

Product code	Water inlet connection	Nozzle model	Flow rate in Lpm at Feed Pressure P1 in Bar.												
			3	5	8	10	12	15	20	25	30	35	40	45	50
UCC Lance with 5 numbers of high pressure nozzle model	1/2" NPT(M)	CMQ 0400	2.0	2.6	3.3	3.7	4.0	5.8	5.2	5.8	6.3	6.8	7.3	7.7	8.2
		CMQ 0500	2.5	3.2	4.1	4.6	5.0	7.2	6.5	7.2	7.9	8.5	9.1	9.7	10.2
		CMQ 0800	4.0	5.2	6.5	7.3	8.0	11.5	10.3	11.5	12.6	13.7	14.6	15.5	16.3
		CMQ 1110	5.5	7.1	9.0	10.0	11.0	15.9	14.2	15.9	17.4	18.8	20.1	21.3	22.5
		CMQ 1120	6.0	7.7	9.8	11.0	12.0	17.3	15.5	17.3	19.0	20.5	21.9	23.2	24.5
		CMQ 1140	7.0	9.0	11.4	12.8	14.0	20.2	18.1	20.2	22.1	23.9	25.6	27.1	28.6
		CMQ 1150	7.5	9.7	12.2	13.7	15.0	21.7	19.4	21.7	23.7	25.6	27.4	29.0	30.6
		CMQ 1170	8.5	11.0	13.9	15.5	17.0	24.5	21.9	24.5	26.9	29.0	31.0	32.9	34.7
		CMQ 1210	10.5	13.6	17.1	19.2	21.0	30.3	27.1	30.3	33.2	35.9	38.3	40.7	42.9
		CMQ 1260	13.0	16.8	21.2	23.7	26.0	37.5	33.6	37.5	41.1	44.4	47.5	50.3	53.1
		CMQ 1320	16.0	20.7	26.1	29.2	32.0	46.2	41.3	46.2	50.6	54.7	58.4	-	-
		CMQ 1360	18.0	23.2	29.4	32.9	36.0	52.0	46.5	52.0	56.9	-	-	-	-
CMQ 1490	24.5	31.6	40.0	44.7	49.0	70.7	-	-	-	-	-	-	-		
UCH Lance with 5 numbers of high pressure nozzle model CM2	1" NPT(M)	CM2 1600	30	39	49	55	60	87	77	87	95	102	110	116	122
		CM2 1700	35	45	57	64	70	101	90	101	111	120	128	136	143
		CM2 1800	40	52	65	73	80	115	103	115	126	137	146	155	-
		CM2 1900	45	58	73	82	90	130	116	130	142	154	-	-	-
		CM2 2100	50	65	82	91	100	144	129	144	158	-	-	-	-
		CM2 2115	58	74	94	105	115	166	148	-	-	-	-	-	-
		CM2 2130	65	84	106	119	130	188	-	-	-	-	-	-	-
		CM2 2145	73	94	118	132	145	209	-	-	-	-	-	-	-
		CM2 2160	80	103	131	146	160	231	-	-	-	-	-	-	-
		CM2 2175	88	113	143	160	-	-	-	-	-	-	-	-	-
CM2 2190	95	123	155	-	-	-	-	-	-	-	-	-	-		



NASEQUIP

COMPACT SPILLBACK NOZZLE

APQ

The Spillback Nozzle series APQ is a compact spillback nozzle, which has the swirling holes and nozzle tip inbuilt in it. This nozzle assembly can be removed as a single unit from the nozzle lance for cleaning and observation. Generally these nozzles are manufactured in SS 316 material of construction and provided with a special surface treatment for improving the hardness. **These nozzles do not jet from the exit orifice in case the swirling holes are blocked by dirt.**



Material

X16: AISI 316 Stainless Steel

Angle	Product code	RF	Flow rate in Lpm at Feed Pressure P1 in Bar.										Exit Orifice	Smallest section	
			3	5	8	10	20	25	30	35	40	45			50
60°	APQ 1120	1/4"	1.20	1.5	2.0	2.2	3.1	3.5	3.8	4.1	4.4	4.6	4.9	1.8	1
	APQ 1150		1.50	1.9	2.4	2.7	3.9	4.3	4.7	5.1	5.5	5.8	6.1	2	1.3
	APQ 1195		1.95	2.5	3.2	3.6	5.0	5.6	6.2	6.7	7.1	7.6	8.0	2.3	1.5
	APQ 1265		2.65	3.4	4.3	4.8	6.8	7.6	8.4	9.1	9.7	10.3	10.8	2.6	1.7
	APQ 1360		3.60	4.6	5.9	6.6	9.3	10.4	11.4	12.3	13.1	13.9	14.7	3	1
	APQ 1410		4.10	5.3	6.7	7.5	10.6	11.8	13.0	14.0	15.0	15.9	16.7	3.3	2.1
	APQ 1480		4.80	6.2	7.8	8.8	12.4	13.9	15.2	16.4	17.5	18.6	19.6	3.5	2.4
	APQ 1530		5.30	6.8	8.7	9.7	13.7	15.3	16.8	18.1	19.4	20.5	21.6	3.8	2.6

HIGHFLOW SPILLBACK NOZZLE

AP2

The Spillback Nozzle series AP2 is a high flow rate spillback nozzle, which has the swirling holes and nozzle tip inbuilt in it. This nozzle assembly can be removed as a single unit from the nozzle lance for cleaning and observation. Generally these nozzles are manufactured in SS 316 material of construction and provided with a special surface treatment for improving the hardness. **These nozzles do not jet from the exit orifice in case the swirling holes are blocked by dirt.**



Material

X16: AISI 316 Stainless Steel

Angle	Product code	RF	Flow rate in Lpm at Feed Pressure P1 in Bar.										Exit Orifice	Smallest section	
			3	5	8	10	20	25	30	35	40	45			50
60°	AP2 1600	1/2"	6.0	7.7	9.8	11.0	15.5	17.3	19.0	20.5	21.9	23.2	24.5	4	2.7
	AP2 1700		7.0	9.0	11.4	12.8	18.1	20.2	22.1	23.9	25.6	27.1	28.6	4.1	2.8
	AP2 1800		8.0	10.3	13.1	14.6	20.7	23.1	25.3	27.3	29.2	31.0	32.7	4.5	3.1
	AP2 1900		9.0	11.6	14.7	16.4	23.2	26.0	28.5	30.7	32.9	34.9	36.7	4.7	3.2
	AP2 2100		10.0	12.9	16.3	18.3	25.8	28.9	31.6	34.2	36.5	38.7	40.8	4.9	3.4
	AP2 2115		11.5	14.8	18.8	21.0	29.7	33.2	36.4	39.3	42.0	44.5	46.9	5.1	3.5
	AP2 2130		13.0	16.8	21.2	23.7	33.6	37.5	41.1	44.4	47.5	50.3	53.1	5.4	3.7
	AP2 2145		14.5	18.7	23.7	26.5	37.4	41.9	45.9	49.5	52.9	56.2	59.2	5.7	3.9
	AP2 2160		16.0	20.7	26.1	29.2	41.3	46.2	50.6	54.7	58.4	62.0	65.3	6.1	4.2
	AP2 2175		17.5	22.6	28.6	32.0	45.2	50.5	55.3	59.8	63.9	67.8	71.4	6.6	4.6
AP2 2190	19.0	24.5	31.0	34.7	49.1	54.8	60.1	64.9	69.4	73.6	77.6	7.1	4.9		

@ For complete nozzle coding system refer to page no:2 & 3

* The dimensions are indicative only and the actual values may vary with the design & flow rate.

Typical Model Number:

APQ	1700	X16
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Nozzle Type Code

Capacity

Material

NASEQUIP

MINI-CIRCLEJET NOZZLES

CMQ

CMQ Mini-circlejet nozzle is single piece circlejet nozzle and generates a spray angle of 60°. These nozzles are manufactured in SS 316 and provided with a special surface treatment to increase the hardness. These nozzles do not have any internal vanes. These nozzles have 1/4" BSP(M) connection for fitment on to the UCC lances.



Angle	Nozzle code @	RF	D*	D1*	Nozzle flow rates in lpm at different operating pressures in bar										
					1	2	3	4	5	10	20	25	30	35	40
60°	CMQ 0400	1/4"	1.2	0.8	0.2	0.3	0.4	0.5	0.5	0.7	1.0	1.2	1.3	1.4	1.5
	CMQ 0500		1.1	1	0.3	0.4	0.5	0.6	0.6	0.9	1.3	1.4	1.6	1.7	1.8
	CMQ 0800		1.6	1.6	0.5	0.7	0.8	0.9	1.0	1.5	2.1	2.3	2.5	2.7	2.9
	CMQ 1110		1.7	1.4	0.6	0.9	1.1	1.3	1.4	2.0	2.8	3.2	3.5	3.8	4.0
	CMQ 1120		1.8	1.5	0.7	1.0	1.2	1.4	1.5	2.2	3.1	3.5	3.8	4.1	4.4
	CMQ 1150		1.9	1.6	0.9	1.2	1.5	1.7	1.9	2.7	3.9	4.3	4.7	5.1	5.5
	CMQ 1170		2	1.8	1.0	1.4	1.7	2.0	2.2	3.1	4.4	4.9	5.4	5.8	6.2
	CMQ 1210		3	2	1.2	1.7	2.1	2.4	2.7	3.8	5.4	6.1	6.6	7.2	7.7
	CMQ 1260		2.4	2.4	1.5	2.1	2.6	3.0	3.4	4.7	6.7	7.5	8.2	8.9	9.5
	CMQ 1320		4	2	1.8	2.6	3.2	3.7	4.1	5.8	8.3	9.2	10.1	10.9	11.7
	CMQ 1360		4	2	2.1	2.9	3.6	4.2	4.6	6.6	9.3	10.4	11.4	12.3	13.1
	CMQ 1490		3.5	2	2.8	4.0	4.9	5.7	6.3	8.9	12.7	14.1	15.5	16.7	17.9

HIGHFLOW CIRCLEJET NOZZLES

CM2

CM2 highflow circlejet nozzle is single piece circlejet nozzle and generates a spray angle of 60°. These nozzles are manufactured in SS 316 and provided with a special surface treatment to increase the hardness. These nozzles do not have any internal vanes. These nozzles have 1/2" BSP(M) connection for fitment on to the UCH lances.



Angle	Nozzle code @	RF	D*	D1*	Nozzle flow rates in lpm at different operating pressures in bar										
					1	2	3	4	5	10	20	25	30	35	40
60°	CM2 1600	1/2"	4	2.7	6.0	5.1	6.2	7.2	8.0	11.3	16.0	17.9	19.6	21.2	22.6
	CM2 1700		4.1	2.8	7.0	6.4	7.9	9.1	10.2	14.4	20.3	22.7	24.9	26.9	28.8
	CM2 1800		4.5	3.1	8.0	7.3	9.0	10.4	11.6	16.4	23.2	26.0	28.5	30.7	32.9
	CM2 1900		4.7	3.2	9.0	8.2	10.0	11.5	12.9	18.3	25.8	28.9	31.6	34.2	36.5
	CM2 2100		4.9	3.4	10.0	9.0	11.0	12.7	14.2	20.1	28.4	31.8	34.8	37.6	40.2
	CM2 2115		5.1	3.5	11.5	9.8	12.0	13.9	15.5	21.9	31.0	34.6	37.9	41.0	43.8
	CM2 2130		5.4	3.7	13.0	9.8	12.0	13.9	15.5	21.9	31.0	34.6	37.9	41.0	43.8
	CM2 2145		5.7	3.9	14.5	9.8	12.0	13.9	15.5	21.9	31.0	34.6	37.9	41.0	43.8
	CM2 2160		6.1	4.2	16.0	9.8	12.0	13.9	15.5	21.9	31.0	34.6	37.9	41.0	43.8
	CM2 2175		6.6	4.6	17.5	9.8	12.0	13.9	15.5	21.9	31.0	34.6	37.9	41.0	43.8
	CM2 2190		7.1	4.9	19.0	9.8	12.0	13.9	15.5	21.9	31.0	34.6	37.9	41.0	43.8

@ For complete nozzle coding system refer to page no:2 & 3

* The dimensions are indicative only and the actual values may vary with the design & flow rate.

Typical Model Number:

CM2	2175	X16
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Nozzle Type Code

Capacity

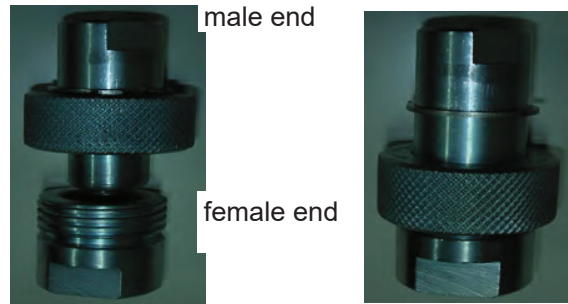
Material

SPARE PARTS FOR LANCES

QUICK RELEASE COUPLINGS

XUQ

Connection threads: NPT (F)
 Maximum Operating Pressure: 200 Bars
Material of Construction
 Zinc plated steel XCS
 Stainless Steel 304 X04



Code	NB (size)
XUQ 0010 XXX	3/8"
XUQ 0015 XXX	1/2"
XUQ 0020 XXX	3/4"
XUQ 0025 XXX	1"

HIGH PRESSURE FLEXIBLE HOSE

XUH

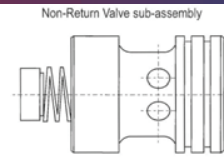
Connection threads: NPT (M)
 Maximum Operating Pressure: 100 Bars
 Temperature max/min: 120°C/-70°C
 Total Length: 1500 mm/2000mm
 Inner material of hose: PTFE
 Braiding/protection: SS 304
 Connectors: CS/SS 304

Code	NB (size)
XUH 0010 XXX - Length	3/8"
XUH 0015 XXX - Length	1/2"
XUH 0020 XXX - Length	3/4"
XUH 0025 XXX - Length	1"

NRV CATRIDGE FOR THE LANCE

XUN

Product Code: XUN 0015 X04
 Connection details: to fit in the Lance
 Type: Spring loaded
 Material of Construction: SS 304
 Minimum opening pressure: 0.2 bar



FILTER CATRIDGE FOR THE LANCE FILTER

XUF

Product Code: XUF 0015X16
 Connection threads: 3/8" BSP(M)
 Mesh size: 250 microns
Material of Construction
 Filter wire: 16L (SS 316L)
 connectors & caps: X04 (SS 304)

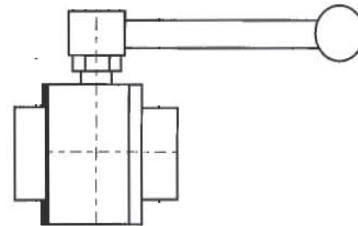


SINGLE BALL VALVE

VBG

Connection threads: NPT (F)
 Pressure class as per ANSI: 800 #
 Material of Construction: XCS (Carbon Steel)

Code	NB (size)
VBGBB6WAESTC001	3/8"
VBGBB8WAESTC001	1/2"
VBGBC6WAESTC001	3/4"
VBGBC8WAESTC001	1"

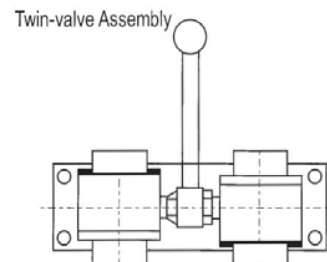


DOUBLE VALVE COMBINATION

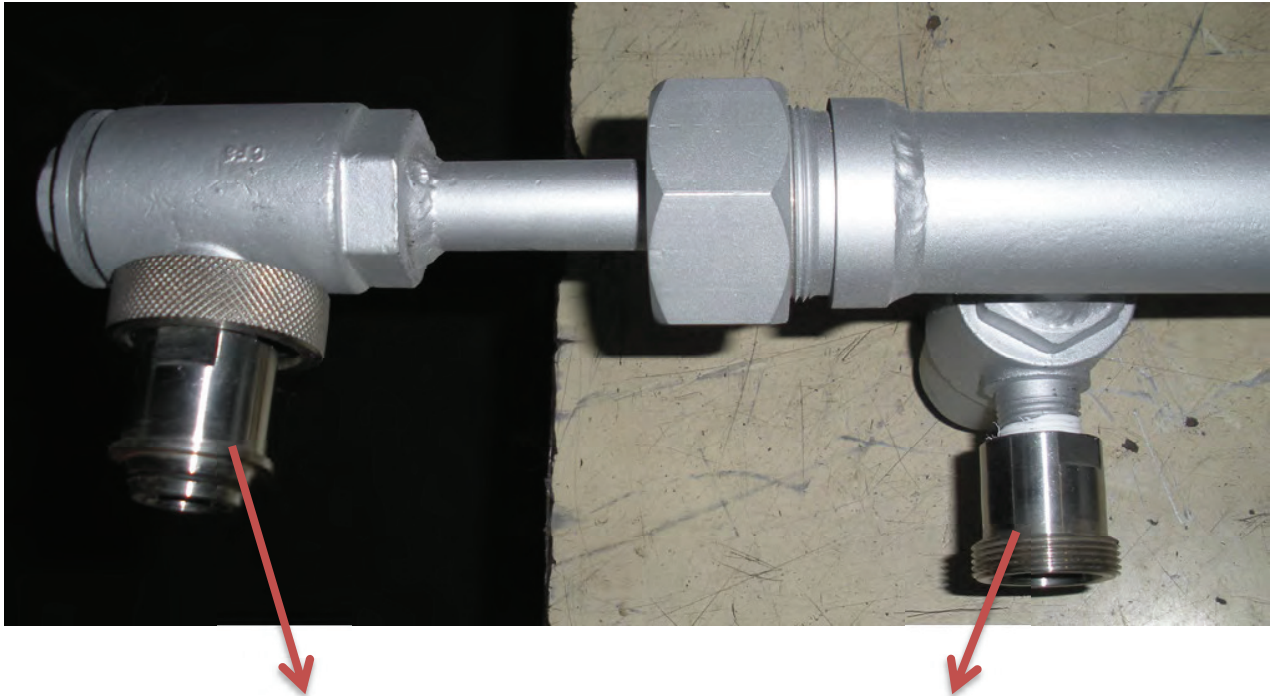
V2G

Connection threads: NPT (F)
 Pressure class as per ANSI: 800 #
 Material of Construction: XCS (Carbon Steel)

Code	NB (size)
V2GBB8WAESTC001	1/2"
V2GBC6WAESTC001	3/4"
V2GBC8WAESTC001	1"



MOUNTING SCHEME OF QRC ON THE LANCE



Male part of Quick Release Coupling

Female part of Quick release coupling

To ensure that the lances are properly connected back every time they are removed for cleaning or spray checking, the Quick release coupling parts are connected in a unique way on to the lances, while they re despatched from our factory. It is explained as follows.

- 1 The male part of the QRC, which carries the clamping nut, is fixed to the return line connection of the spillback lance
- 2 The female part of the QRC is fixed to the supply line connection of the spillback lance
- 3 The high pressure hose connected to the supply header should have the Male part of the QRC, which carries the clamping nut.
- 4 The high pressure hose connected to the return header should have the female part of the QRC
- 5 This scheme is a foolproof arrangement and at site, since with this, there is no chance of wrong connection to be made by the maintenance personal during the spray checking or cleaning period.