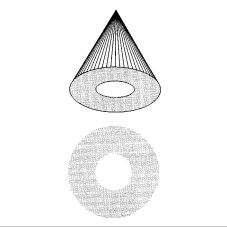


Atomizzatori idraulici a cono semi vuoto
Hollow cone hydraulic atomizing fine spray nozzles

LMP - LNP - LMPD - LNPD - MP - NP - RN - MPL

CARATTERISTICHE DI SPRUZZO
Cono semi vuoto con atomizzazione molto fine anche alle pressioni più basse. Per un funzionamento ottimale di questi ugelli è consigliata una pressione minima di 5 bar.

COSTRUZIONE
Tutti gli atomizzatori idraulici sono costruiti in più pezzi con dischetto orifizio inserito a pressione e divergente rimovibile per facilitare eventuali operazioni di pulizia. I tipi LMPD e LNPD sono progettati per il montaggio a parete ed hanno una filettatura esterna da 1/2" Gas conica (BSPT - UNI 339). I modelli LMP, LNP, LMPD e LNPD sono provvisti di apposito filtro utile ad evitare problemi di intasamento. La punta RN è perfettamente intercambiabile con tutte le punte della serie R1. (Vedi pagg. 112÷116)
L'unica differenza tra il modello MP e il modello MPL consiste nel fatto che quest'ultimo viene fornito completo di filtro.
Tutti gli atomizzatori idraulici hanno attacchi con filettatura Gas conica (BSPT - UNI 339)
Altre filettature: NPT, Gas cilindrica (BSPP - UNI 338), ecc. vengono fornite su specifica richiesta.

MATERIALI STANDARD
Corpo esterno in ottone con dischetto orifizio e diffusore interno in acciaio inox AISI 303.
Intero ugello in acciaio inox AISI 303, acciaio inox AISI 316 e PVC.
Altri materiali vengono forniti su richiesta. (Vedi pag. 3)

APPLICAZIONI TIPICHE
Raffreddamento per evaporazione, umidificazione, lubrificazione, raffreddamento aria e gas, ecc.

SPRAY CHARACTERISTICS
These provide a semi-hollow cone effect with finely atomized spray pattern even at relatively low pressures. For them to function perfectly, it is advisable to use a minimum 5 bar pressure.

CONSTRUCTION
They are composed of various pieces with their respective inserted orifice discs and removable cores to facilitate eventual cleaning problems. The LMPD and LNPD series are designed for wall-mounting connections with an external Gas tapered (BSPT - UNI 339) threaded 1/2" size. The LMP, LNP, LMPD and LNPD models are equipped with strainers, useful to avoid clogging problems. The RN tip models are perfecly interchangeable with those of the R1 series. (See pages 112÷116)
The unique difference between the MP and the MPL nozzle types is the fact that the latter is supplied complete with its special strainers.
All the nozzles are Gas tapered (BSPT - UNI 339).
Different threadings: NPT, Gas parallel (BSPP - UNI 338) etc. are supplied under special request basis.

STANDARD MATERIALS
External brass body with orifice disc insert and internal core in stainless steel AISI 303, entire unit in stainless steel AISI 303, stainless steel AISI 316 and PVC.
Different product materials are supplied under special request. (See page 3 for list)

TYPICAL APPLICATIONS
Evaporative cooling, humidifying, lubrification, moistening, air and gas cooling, etc.

Tipi - *Types*

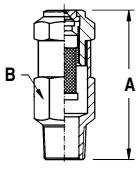
LMP

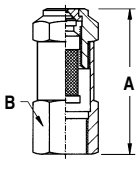
LNP

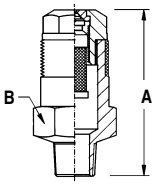
LMPD

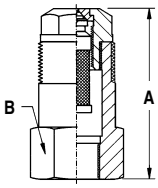
LNPD

Filtro - *Strainer*







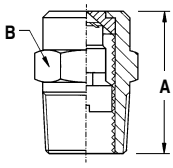


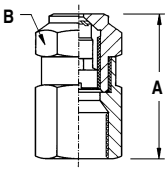
Costruzione speciale
Specially made nozzle

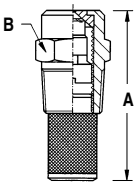
MP

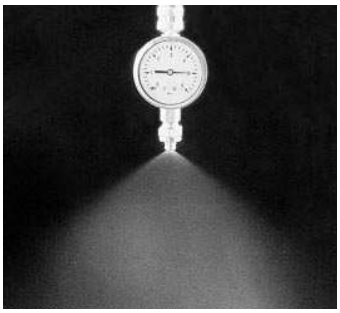
NP

MPL

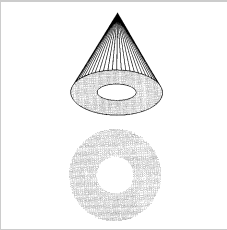








Atomizzatori idraulici a cono semi vuoto
Hollow cone hydraulic atomizing fine spray nozzles



LMP - LNP - LMPD - LNPD - MP - NP - RN - MPL

Tabella delle portate - *Capacity chart*

Ugello - *Nozzle*				Orifizio	Diff.	Pressione - *Pressure (Bar)*													Angolo di spruzzo		
Attacco	Femmina	Maschio	Codice	*Orifice*	*Core*	1,5	2	2,5	3	4	5	7	10	15	20	35	50	70	*Spray angle*		
Pipe conn.	*Female*	*Male*	*Code*	Ø Nom. mm	No.	Portata - *Capacity (l/ hour)*													3 Bar	7 Bar	20 Bar
1/ 4''	LNP LNPD NP	LMP LMPD MP	0,6	0,41	206	1,67	1,93	2,16	2,37	2,73	3,06	3,62	4,32	5,30	6,12	8,09	9,67	11,44	30°	35°	65°
			1	0,51	210	2,79	3,22	3,60	3,95	4,56	5,10	6,03	7,21	8,83	10,19	13,48	16,12	19,07	45°	70°	72°
			1,5	0,51	216	4,19	4,83	5,41	5,92	6,84	7,64	9,05	10,81	13,24	15,29	20,23	24,17	28,60	65°	70°	72°
			2	0,71	216	5,58	6,45	7,21	7,90	9,12	10,19	12,06	14,41	17,65	20,39	26,97	32,23	38,14	70°	75°	77°
			3	0,71	220	8,37	9,67	10,81	11,84	13,67	15,29	18,09	21,62	26,48	30,58	40,45	48,35	57,21	65°	70°	73°
			4	1,07	220	11,17	12,89	14,41	15,79	18,23	20,39	24,12	28,83	35,31	40,77	53,93	64,46	76,27	72°	82°	85°
			6	1,07	225	16,75	19,34	21,62	23,69	27,35	30,58	36,18	43,24	52,96	61,16	80,90	96,70	114,41	73°	80°	82°
			8	1,52	225	22,33	25,79	28,83	31,58	36,47	40,77	48,24	57,66	70,62	81,54	107,87	128,93	152,55	85°	90°	90°
			10	1,63	420	27,91	32,23	36,04	39,48	45,58	50,96	60,30	72,07	88,27	101,93	134,84	161,16	190,69	82°	85°	86°
			12	1,93	420	33,50	38,68	43,24	47,37	54,70	61,16	72,36	86,49	105,92	122,31	161,80	193,39	228,82	78°	82°	85°
			14	1,93	421	39,08	45,12	50,45	55,27	63,82	71,35	84,42	100,90	123,58	142,70	188,77	225,62	266,96	85°	88°	90°
			18	1,93	422	50,24	58,02	64,87	71,06	82,05	91,73	108,54	129,73	158,89	183,47	242,70	290,09	343,23	81°	84°	86°
			20	1,93	425	55,83	64,46	72,07	78,95	91,17	101,93	120,60	144,14	176,54	203,85	269,67	322,32	381,37	81°	85°	88°
			22	1,93	625	61,41	70,91	79,28	86,85	100,28	112,12	132,66	158,56	194,19	224,24	296,64	354,55	419,51	70°	72°	75°
			26	2,18	625	72,58	83,80	93,69	102,64	118,51	132,50	156,78	187,39	229,50	265,01	350,57	419,01	495,78	73°	75°	77°

Componenti serie - RN - *Series components*

Corpo maschio
Male body

Filtro
Strainer

Punta
Tip

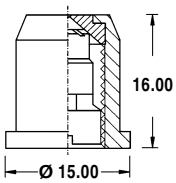
Ghiera
Retainer cap

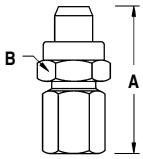
Corpo femmina
Female body

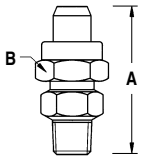
Punta - RN - *Tip*

RN

RRN







Per ordinare - *To order*

Ugelli completi, specificare: - *Complete nozzles, please specify:*

1/ 4''	MP	26	SS	=	1/ 4MP26SS
Attacco *Pipe connection*	Tipo *Type*	Codice *Code*	Materiale* *Material**		Esempio *Example*

Solo punte di spruzzo, specificare: - *For only tips, please specify:*

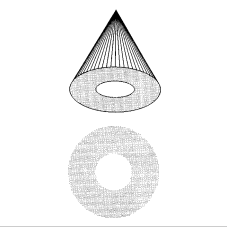
RN	10	BR	=	RN10BR
Tipo *Type*	Codice *Code*	Materiale* *Material**		Esempio *Example*

* Vedi Pag. 3 - *See page 3 for list*

Dimensioni massimo ingombro - *Maximum dimensions*

Tipo ugello *Nozzle type*	Attacco - *Pipe connection*							
	1/ 8''		1/ 4''		3/ 8''		1/ 2''	
	A mm	B mm	A mm	B mm	A mm	B mm	A mm	B mm
LNP			50	18 hex				
LNPD			50	21 hex				
NP			34	18 hex				
LMP			54	18 hex				
LMPD			54	21 hex				
MP			22	14 hex				
MPL			37	14 hex				
RN	50	21 hex	50	21 hex	50	22 hex	50	25 hex
RRN	50	21 hex	50	21 hex	50	21 hex	50	22 hex

Accessori per il montaggio - *Mounting fittings*



Atomizzatori idraulici a cono semi vuoto
Hollow cone hydraulic atomizing fine spray nozzles

MPD - MPS - MPC - MPF - MPN

CARATTERISTICHE DI SPRUZZO
Getto a cono semi vuoto con distribuzione uniforme a tutte le pressioni e con l'atomizzazione più fine che si possa ottenere con l'uso della sola pressione idraulica.

COSTRUZIONE
Composti da diversi pezzi con dischetto orifizio inserito a pressione e diffusore interno rimovibile per facilitare eventuali operazioni di pulizia.
Tutti questi modelli hanno attacchi di tipo maschio.
I tipi MPD e MPS hanno una filettatura da 9/16" e vengono forniti completi di filtro in bronzo sinterizzato o con filtro a rete in acciaio inox AISI 304. I tipi MPC e MPF hanno filettatura metrica M15x1,5 mentre il tipo MPN ha filettatura Gas conica 1/4" (BSPT - UNI 339).

MATERIALI STANDARD
Corpo esterno in ottone con dischetto orifizio e diffusore interno in acciaio inox AISI 303.
Intero ugello in acciaio inox AISI 303. Altri materiali vengono forniti a richiesta. (Vedi pag. 3)

APPLICAZIONI TIPICHE
Montati sui bruciatori per atomizzare finemente il gasolio, su impianti per il trattamento e la conservazione della frutta (es. spruzzatura di cera vergine), sui collettori dei cannoni per l'innevamento artificiale, ecc.

SPRAY CHARACTERISTICS
They offer a semi-hollow cone-shaped projection with the finest possible atomizing effect by using only hydraulic pressure, as well as with a good pattern uniformity over the entire ring-like area at all pressures.

CONSTRUCTION
They all have male pipe connections and are composed of various pieces with their respective orifice disc inserts as well as removable cores.
The MPD and MPS series have a standard 9/16" thread size and are generally equipped with either sintered bronze-made strainers or fine stainless steel net-like screening strainers.
The MPC and MPF models have a standard M15x1,5 metric threading size, while MPN nozzles types are characterised by a Gas tapered (BSPT - UNI 339) standard 1/4" thread size.

STANDARD MATERIALS
External brass body with both orifice disc insert and removable core in stainless steel AISI 303, entire unit in stainless steel AISI 303. Different product materials are available upon special request. (See page 3 for list).

TYPICAL APPLICATIONS
They are mounted on oil burners to obtain highly atomized fuel oil, on fruit preservation processing machines (wax spraying), on artificial snow-spraying machines, etc.

Tipi - *Types*

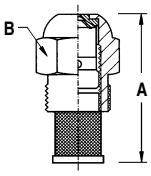
MPD

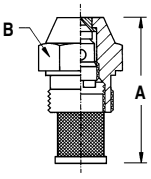
MPS

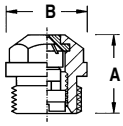
MPC

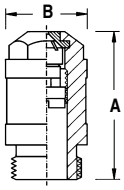
MPF

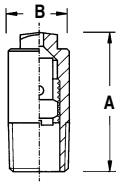
MPN





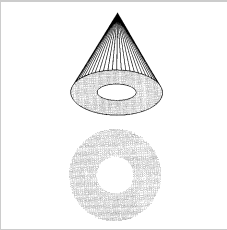






Costruzioni speciali - *Specially made nozzles*

Atomizzatori idraulici a cono semi vuoto
Hollow cone hydraulic atomizing fine spray nozzles



MPD - MPS - MPC - MPF - MPN

Tabella delle portate - *Capacity chart*

Ugello - *Nozzle*			Pressione - *Pressure (Bar)*														
Attacco maschio *Male pipe connection*	Tipo *Type*	Codice *Code*	2	3	4	5	7	10	15	20	25	30	35	40	45	50	70
			Portata - *Capacity (l/ hour)*														
		0,4	0,73	0,89	1,03	1,15	1,36	1,63	2,00	2,31	2,58	2,82	3,05	3,26	3,46	3,65	4,32
		0,5	0,91	1,12	1,29	1,44	1,71	2,04	2,50	2,88	3,22	3,53	3,81	4,08	4,32	4,56	5,39
		0,6	1,09	1,34	1,55	1,73	2,05	2,45	3,00	3,46	3,87	4,24	4,58	4,89	5,19	5,47	6,47
		0,65	1,19	1,45	1,68	1,87	2,22	2,65	3,25	3,75	4,19	4,59	4,96	5,30	5,62	5,93	7,01
		0,75	1,37	1,67	1,93	2,16	2,56	3,06	3,75	4,32	4,84	5,30	5,72	6,12	6,49	6,84	8,09
		0,85	1,55	1,90	2,19	2,45	2,90	3,47	4,24	4,90	5,48	6,00	6,48	6,93	7,35	7,75	9,17
		0,9	1,64	2,01	2,32	2,59	3,07	3,67	4,49	5,19	5,80	6,36	6,87	7,34	7,78	8,21	9,71
		1	1,82	2,23	2,58	2,88	3,41	4,08	4,99	5,77	6,45	7,06	7,63	8,15	8,65	9,12	10,79
		1,1	2,01	2,46	2,84	3,17	3,75	4,49	5,49	6,34	7,09	7,77	8,39	8,97	9,51	10,03	11,87
		1,2	2,19	2,68	3,09	3,46	4,09	4,89	5,99	6,92	7,74	8,47	9,15	9,79	10,38	10,94	12,95
		1,25	2,28	2,79	3,22	3,60	4,26	5,10	6,24	7,21	8,06	8,83	9,54	10,19	10,81	11,40	13,48
		1,35	2,46	3,01	3,48	3,89	4,61	5,50	6,74	7,78	8,70	9,53	10,30	11,01	11,68	12,31	14,56
		1,5	2,74	3,35	3,87	4,32	5,12	6,12	7,49	8,65	9,67	10,59	11,44	12,23	12,97	13,68	16,18
		1,65	3,01	3,68	4,26	4,76	5,63	6,73	8,24	9,51	10,64	11,65	12,59	13,46	14,27	15,04	17,80
		1,75	3,19	3,91	4,51	5,05	5,97	7,14	8,74	10,09	11,28	12,36	13,35	14,27	15,14	15,96	18,88
		2	3,65	4,47	5,16	5,77	6,82	8,15	9,99	11,53	12,89	14,12	15,26	16,31	17,30	18,24	21,58
		2,25	4,10	5,02	5,80	6,49	7,68	9,17	11,24	12,97	14,51	15,89	17,16	18,35	19,46	20,51	24,27
		2,5	4,56	5,58	6,45	7,21	8,53	10,19	12,48	14,42	16,12	17,66	19,07	20,39	21,62	22,79	26,97
		2,75	5,01	6,14	7,09	7,93	9,38	11,21	13,73	15,86	17,73	19,42	20,98	22,43	23,79	25,07	29,67
		3	5,47	6,70	7,74	8,65	10,23	12,23	14,98	17,30	19,34	21,19	22,88	24,46	25,95	27,35	32,36
		3,25	5,93	7,26	8,38	9,37	11,09	13,25	16,23	18,74	20,95	22,95	24,79	26,50	28,11	29,63	35,06
		3,5	6,38	7,82	9,03	10,09	11,94	14,27	17,48	20,18	22,56	24,72	26,70	28,54	30,27	31,91	37,76
		4	7,29	8,93	10,32	11,53	13,65	16,31	19,98	23,07	25,79	28,25	30,51	32,62	34,60	36,47	43,15
		4,5	8,21	10,05	11,60	12,97	15,35	18,35	22,47	25,95	29,01	31,78	34,33	36,70	38,92	41,03	48,55
9/ 16''	**MPD**	**5**	9,12	11,17	12,89	14,42	17,06	20,39	24,97	28,83	32,24	35,31	38,14	40,77	43,25	45,59	53,94
9/ 16''	**MPS**	**5,5**	10,03	12,28	14,18	15,86	18,76	22,43	27,47	31,72	35,46	38,84	41,96	44,85	47,57	50,15	59,33
M15	**MPC**	**6**	10,94	13,40	15,47	17,30	20,47	24,46	29,96	34,60	38,68	42,37	45,77	48,93	51,90	54,71	64,73
M15	**MPF**	**6,5**	11,85	14,52	16,76	18,74	22,17	26,50	32,46	37,48	41,91	45,91	49,58	53,01	56,22	59,26	70,12
1/ 4''	**MPN**	**7**	12,76	15,63	18,05	20,18	23,88	28,54	34,96	40,36	45,13	49,44	53,40	57,08	60,55	63,82	75,52
		7,5	13,68	16,75	19,34	21,62	25,59	30,58	37,45	43,25	48,35	52,97	57,21	61,16	64,87	68,38	80,91
		8	14,59	17,87	20,63	23,07	27,29	32,62	39,95	46,13	51,58	56,50	61,03	65,24	69,20	72,94	86,30
		8,5	15,50	18,98	21,92	24,51	29,00	34,66	42,45	49,01	54,80	60,03	64,84	69,32	73,52	77,50	91,70
		9	16,41	20,10	23,21	25,95	30,70	36,70	44,94	51,90	58,02	63,56	68,65	73,39	77,85	82,06	97,09
		9,5	17,32	21,22	24,50	27,39	32,41	38,74	47,44	54,78	61,25	67,09	72,47	77,47	82,17	86,62	102,49
		10	18,24	22,33	25,79	28,83	34,11	40,77	49,94	57,66	64,47	70,62	76,28	81,55	86,50	91,18	107,88
		11	20,06	24,57	28,37	31,72	37,53	44,85	54,93	63,43	70,92	77,69	83,91	89,70	95,15	100,29	118,67
		12	21,88	26,80	30,95	34,60	40,94	48,93	59,93	69,20	77,36	84,75	91,54	97,86	103,80	109,41	129,46
		13	23,71	29,03	33,52	37,48	44,35	53,01	64,92	74,96	83,81	91,81	99,17	106,01	112,45	118,53	140,24
		14	25,53	31,27	36,10	40,36	47,76	57,08	69,91	80,73	90,26	98,87	106,80	114,17	121,09	127,65	151,03
		15	27,35	33,50	38,68	43,25	51,17	61,16	74,91	86,50	96,71	105,94	114,42	122,32	129,74	136,76	161,82
		16	29,18	35,73	41,26	46,13	54,58	65,24	79,90	92,26	103,15	113,00	122,05	130,48	138,39	145,88	172,61
		17	31,00	37,97	43,84	49,01	57,99	69,32	84,90	98,03	109,60	120,06	129,68	138,63	147,04	155,00	183,40
		18	32,82	40,20	46,42	51,90	61,41	73,39	89,89	103,80	116,05	127,12	137,31	146,79	155,69	164,12	194,18
		19	34,65	42,43	49,00	54,78	64,82	77,47	94,88	109,56	122,49	134,19	144,94	154,94	164,34	173,23	204,97
		20	36,47	44,67	51,58	57,66	68,23	81,55	99,88	115,33	128,94	141,25	152,56	163,10	172,99	182,35	215,76
		22	40,12	49,13	56,73	63,43	75,05	89,70	109,86	126,86	141,84	155,37	167,82	179,41	190,29	200,59	237,34
		24	43,76	53,60	61,89	69,20	81,87	97,86	119,85	138,39	154,73	169,50	183,08	195,72	207,59	218,82	258,91
		26	47,41	58,07	67,05	74,96	88,70	106,01	129,84	149,93	167,62	183,62	198,33	212,03	224,89	237,06	280,49
		28	51,06	62,53	72,21	80,73	95,52	114,17	139,83	161,46	180,52	197,75	213,59	228,34	242,19	255,29	302,06
		30	54,71	67,00	77,36	86,50	102,34	122,32	149,82	172,99	193,41	211,87	228,85	244,65	259,49	273,53	323,64
		32	58,35	71,47	82,52	92,26	109,17	130,48	159,80	184,53	206,31	226,00	244,10	260,96	276,79	291,76	345,22
		35	63,82	78,17	90,26	100,91	119,40	142,71	174,79	201,82	225,65	247,18	266,99	285,42	302,74	319,11	377,58
		40	72,94	89,33	103,15	115,33	136,46	163,10	199,75	230,66	257,88	282,50	305,13	326,20	345,98	364,70	431,52
		45	82,06	100,50	116,05	129,74	153,52	183,49	224,72	259,49	290,12	317,81	343,27	366,97	389,23	410,29	485,46
		50	91,18	111,67	128,94	144,16	170,57	203,87	249,69	288,32	322,35	353,12	381,41	407,75	432,48	455,88	539,40

Per ordinare - *To order*

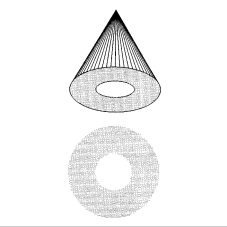
Specificare: - *Please specify:*

9/ 16''	MPD	12	BR	=	9/ 16MPD12BR
Attacco maschio *Pipe connection*	Tipo *Type*	Codice *Code*	Materiale* *Material**		Esempio *Example*

Vedi Pag. 3 - *See page 3 for list

Dimensioni massimo ingombro - *Maximum dimensions*

Tipo ugello *Nozzle type*	Attacco maschio - *Male pipe connection*					
	9/ 16''		M 15x1,5		1/ 4''	
	A mm	B mm	A mm	B mm	A mm	B mm
MPC			17	18 dia		
MPD	31	17 hex				
MPF			32	18 dia		
MPN					30	14 dia
MPS	32	17 hex				



Atomizzatori idraulici a cono semi vuoto
Hollow cone hydraulic atomizing fine spray nozzles

MPZ

CARATTERISTICHE DI SPRUZZO
Cono semi vuoto finemente atomizzato con distribuzione uniforme su tutta la superfice del getto a tutte le pressioni.

COSTRUZIONE
Realizzato in due pezzi con divergente rimovibile per facilitare eventuali operazioni di pulizia. Gli attacchi sono maschio ed hanno filettatura Gas cilindrica (BSPP - UNI 338).

MATERIALI STANDARD
Ottone, acciaio inox AISI 303, acciaio inox AISI 316 e PVC.
Altri materiali vengono forniti a richiesta. (Vedi pag. 3)

APPLICAZIONI TIPICHE
Raffreddamento per evaporazione, umidificazione, lavaggio aria e gas, umettaggi e in tutti i casi dove serve una fine atomizzazione come nei zuccherifici sui filtri Putch.

SPRAY CHARACTERISTICS
They provide semi-hollow cone-shaped and finely atomized spray patterns as well as a good distribution uniformity over the entire ring-like coverage at all pressures.

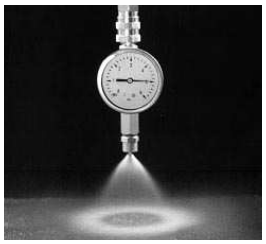
CONSTRUCTION
A two-piece unit with removable core to facilitate eventual nozzle cleaning. All MPZ nozzle types are male Gas parallel (BSPP - UNI 338) threaded.

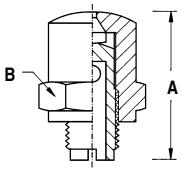
STANDARD MATERIALS
Brass, stainless steel AISI 303, stainless steel AISI 316 and PVC.
Different product materials are available upon special request. (See page 3 for list)

TYPICAL APPLICATIONS
Evaporative cooling, humidifying, air and gas washing, moistening and all cases in which highly fine atomizing effect is necessary such as spraying on Putch filters in sugar producing industries.

Tabella delle portate - *Capacity chart*

Ugello - *Nozzle*			Orifizio	Pressione - *Pressure (Bar)*													Angolo
Attacco maschio	Tipo	Codice	*Orifice*	0,25	0,5	0,7	1	1,5	2	2,5	3	4	5	6	7	10	*Angle*
Male pipe conn.	*Type*	*Code*	*Ø Nom. mm*	Portata - *Capacity (l/ min)*													3 Bar
1/ 8"	MPZ	3	0,3	0,0101	0,0143	0,0169	0,0202	0,0247	0,0286	0,0320	0,0350	0,0404	0,0452	0,0495	0,0535	0,0639	60°
		4	0,4	0,0178	0,0252	0,0298	0,0356	0,0436	0,0504	0,0563	0,0617	0,0712	0,0796	0,0872	0,0942	0,1126	60°
		5	0,5	0,0279	0,0395	0,0467	0,0558	0,0684	0,0789	0,0882	0,0967	0,1116	0,1248	0,1367	0,1477	0,1765	63°
		8	0,8	0,0722	0,1021	0,1208	0,1443	0,1768	0,2041	0,2282	0,2500	0,2887	0,3227	0,3536	0,3819	0,4564	68°
		11	1,1	0,1357	0,1919	0,2270	0,2714	0,3323	0,3838	0,4290	0,4700	0,5427	0,6068	0,6647	0,7179	0,8581	70°
		16	1,6	0,2887	0,4082	0,4830	0,5774	0,7071	0,8165	0,9129	1,0000	1,1547	1,2910	1,4142	1,5275	1,8257	72°
		19	1,9	0,4301	0,6083	0,7197	0,8603	1,0536	1,2166	1,3602	1,4900	1,7205	1,9236	2,1072	2,2760	2,7204	73°
		23	2,3	0,5966	0,8437	0,9983	1,1932	1,4614	1,6874	1,8866	2,0667	2,3864	2,6681	2,9227	3,1569	3,7732	75°
		25	2,5	0,7024	0,9934	1,1754	1,4049	1,7206	1,9868	2,2213	2,4333	2,8098	3,1414	3,4413	3,7170	4,4426	76°
		28	2,8	0,8805	1,2452	1,4733	1,7609	2,1567	2,4903	2,7843	3,0500	3,5218	3,9375	4,3134	4,6590	5,5685	78°
1/ 4"	MPZ	32	3,2	1,1547	1,6330	1,9322	2,3094	2,8284	3,2660	3,6515	4,0000	4,6188	5,1640	5,6569	6,1101	7,3030	78°
		36	3,6	1,4578	2,0617	2,4394	2,9156	3,5709	4,1233	4,6100	5,0500	5,8312	6,5195	7,1418	7,7140	9,2200	78°
		39	3,9	1,7032	2,4087	2,8500	3,4064	4,1719	4,8173	5,3859	5,9000	6,8127	7,6169	8,3439	9,0124	10,772	78°
		42	4,2	1,9919	2,8169	3,3330	3,9837	4,8790	5,6338	6,2988	6,9000	7,9674	8,9079	9,7581	10,540	12,598	78°
		45	4,5	2,2805	3,2252	3,8161	4,5611	5,5861	6,4503	7,2117	7,9000	9,1221	10,199	11,172	12,067	14,423	78°
		48	4,8	2,5981	3,6742	4,3474	5,1962	6,3640	7,3485	8,2158	9,0000	10,392	11,619	12,728	13,748	16,432	78°
3/ 8"	MPZ	50	5,0	2,8146	3,9804	4,7097	5,6292	6,8943	7,9608	8,9005	9,7500	11,258	12,587	13,789	14,893	17,801	78°
		55	5,5	3,4064	4,8173	5,6999	6,8127	8,3439	9,6347	10,772	11,800	13,625	15,234	16,688	18,025	21,544	78°
		60	6,0	4,0415	5,7155	6,7626	8,0829	9,8995	11,431	12,780	14,000	16,166	18,074	19,799	21,385	25,560	78°
1/ 2"	MPZ	70	7,0	5,5137	7,7975	9,2262	11,027	13,506	15,595	17,436	19,100	22,055	24,658	27,011	29,176	34,872	78°
		80	8,0	7,2169	10,206	12,076	14,434	17,678	20,412	22,822	25,000	28,868	32,275	35,355	38,188	45,644	78°
3/ 4"	MPZ	100	10	11,258	15,922	18,839	22,517	27,577	31,843	35,602	39,000	45,033	50,349	55,154	59,573	71,204	78°
		110	11	13,568	19,188	22,703	27,135	33,234	38,375	42,905	47,000	54,271	60,677	66,468	71,794	85,810	78°
1"	MPZ	130	13	19,053	26,944	31,881	38,105	46,669	53,889	60,249	66,000	76,210	85,206	93,338	100,82	120,50	78°
		150	15	25,403	35,926	42,508	50,807	62,225	71,852	80,333	88,000	101,61	113,61	124,45	134,42	160,67	78°
1 1/ 4"	MPZ	180	18	36,373	51,439	60,864	72,746	89,095	102,88	115,02	126,00	145,49	162,67	178,19	192,47	230,04	79°
		210	21	49,652	70,219	83,084	99,304	121,62	140,44	157,01	172,00	198,61	222,05	243,24	262,73	314,03	80°
1 1/ 2"	MPZ	230	23	59,467	84,099	99,507	118,93	145,66	168,20	188,05	206,00	237,87	265,94	291,33	314,67	376,10	81°
		250	25	70,148	99,204	117,38	140,30	171,83	198,41	221,83	243,00	280,59	313,71	343,65	371,19	443,66	82°
2"	MPZ	300	30	101,61	143,70	170,03	203,23	248,90	287,41	321,33	352,00	406,45	454,43	497,80	537,69	642,66	83°
		360	36	145,78	206,17	243,94	291,56	357,09	412,33	461,00	505,00	583,12	651,95	714,18	771,40	922,00	84°
3"	MPZ	500	50	281,46	398,04	470,97	562,92	689,43	796,08	890,05	975,00	1.125,83	1.258,72	1.378,86	1.489,34	1.780,10	85°
		600	60	404,15	571,55	676,26	808,29	989,95	1.143,10	1.278,02	1.400,00	1.616,58	1.807,39	1.979,90	2.138,54	2.556,04	85°





MPZ

Per ordinare, specificare: - *To order, please specify:*

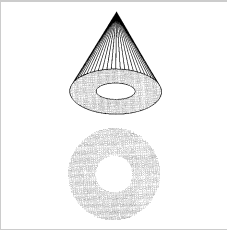
1/ 8''	MPZ	16	SS	=	1/ 8MPZ16SS
Attacco maschio *Pipe connection*	Tipo *Type*	Codice *Code*	Materiale* *Material**		Esempio *Example*

* Vedi Pag. 3 - *See page 3 for list*

Dimensioni massimo ingombro *Maximum dimensions*

Attacco maschio *Male pipe connection*	Ugello tipo MPZ *Nozzle type MPZ*	
	A mm	B mm
1/ 8"	26	17 hex
1/ 4"	32	20 hex
3/ 8"	40	24 hex
1/ 2"	50	27 hex
3/ 4"	60	36 hex
1"	80	46 hex
1 1/ 4"	90	55 hex
1 1/ 2"	100	65 hex
2"	110	80 hex
3"	160	120 hex

Atomizzatori idraulici a cono semi vuoto
Hollow cone hydraulic atomizing fine spray nozzles



6MA - 1/ 8”P - RNP

CARATTERISTICHE DI SPRUZZO
Getto finemente atomizzato con proiezione a cono semi vuoto. La dimensione delle goccioline è la più fine possibile con l’utilizzo della sola pressione idraulica. Producono un getto altamente nebulizzato che crea umidità senza provocare condizioni di eccessiva bagnatura.

COSTRUZIONE
Composti da vari pezzi con dischetto orifizio rapportato e divergente rimovibile per consentire eventuali operazioni di manutenzione e di pulizia. I tipi 6MA e 1/ 8”P hanno attacchi maschio rispettivamente metrico da 6MA e Gas conico da 1/ 8” (BSPT - UNI 339).
La punta RNP ha un ottimo funzionamento anche a pressioni più basse ed è perfettamente intercambiabile con le punte della serie R1 e viene montata con i relativi corpi e ghiere. (Vedi pagg. 112÷116)

MATERIALI STANDARD
Corpo in ottone con dischetto orifizio e divergente interno in acciaio inox AISI 303. Intero ugello in acciaio inox AISI 303.

APPLICAZIONI TIPICHE
Umidificazione dei prodotti vegetali, abbattimento polveri e raffreddamento per evaporazione negli allevamenti avicoli senza problemi di bagnatura del tappeto sottostante, lavaggio aria e gas, ecc.

SPRAY CHARACTERISTICS
These models provide the most highly atomized semi-hollow cone-like spray pattern with the use of only hydraulic pressure as well as with coverage uniformity over the entire ring-like surface at all pressures. They also produce humidity in the form of mist without excessively creating wet conditions.

CONSTRUCTION
They all have male pipe connections and are assembled with various pieces including their specific inserted orifice discs as well as their respective removable cores in order to enable eventual maintenance and nozzle cleaning.
The 6MA and 1/ 8”P series offer the best efficiency at operating pressures within 30 to 70 Bar spray angle range. The RNP tip models function very well even at relatively low pressures and perfectly interchange with those of R1 series on the same basic bodies and their corresponding cap retainers. (See pages 112÷116)
The 6MA models have a standard male 6MA metric threading size, while 1/ 8”P nozzle types are characterised by a male Gas tapered standard 1/ 8” thread size.(BSPT - UNI 339)

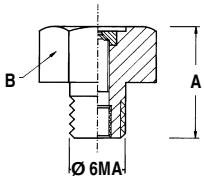
STANDARD MATERIALS
External brass body with inserted orifice disc and removable core in stainless steel AISI 303, entire unit in stailess steel AISI 303.

TYPICAL APPLICATIONS
Vegetable products humidification, dust control and evaporative cooling in avicultural activities with no danger of soaked floor carpets, air and gas washing, etc.

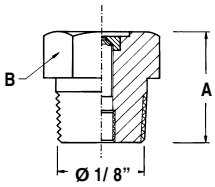
Tabella delle portate - *Capacity chart*

Ugello - *Nozzle*			Diffusore	Fresatura	Orifizio	Pressione - *Pressure (Bar)*														
Attacco masc.	Tipo	Codice	*Core*	*Slot width*	*Orifice*	4	6	8	10	15	20	25	30	35	40	45	50	55	60	70
Male pipe conn.	*Type*	*Code*	No.	mm	Ø Nom. mm	Portata (l/ ora) - *Capacity (l/ hour)*														
6MA 1/ 8”	6MA P	**0,20**	202	0,20	0,20	1,25	1,53	1,77	1,98	2,42	2,80	3,13	3,43	3,70	3,96	4,20	4,43	4,64	4,85	5,24
		0,21	202	0,20	0,21	1,43	1,75	2,02	2,26	2,76	3,19	3,57	3,91	4,22	4,51	4,79	5,04	5,29	5,53	5,97
		0,22	202	0,20	0,22	1,62	1,98	2,29	2,56	3,14	3,62	4,05	4,43	4,79	5,12	5,43	5,72	6,00	6,27	6,77
		0,23	202	0,20	0,23	1,83	2,24	2,59	2,89	3,54	4,09	4,57	5,01	5,41	5,78	6,14	6,47	6,78	7,08	7,65
		0,24	202	0,20	0,24	2,06	2,52	2,91	3,25	3,98	4,60	5,14	5,63	6,09	6,51	6,90	7,27	7,63	7,97	8,61

6MA



1/ 8”P



Componenti serie - RNP - *Series components*

Corpo maschio
Male body

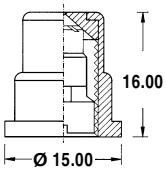
Corpo femmina
Female body

Filtro
Strainer

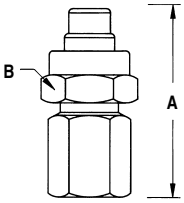
Punta
Tip

Ghiera
Retainer cap

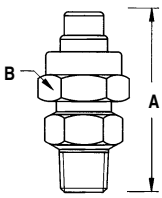
Punta - RNP - *Tip*

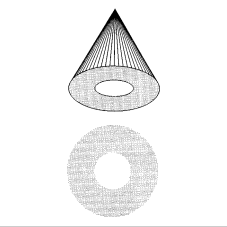


RNP



RRNP





Atomizzatori idraulici a cono semi vuoto
Hollow cone hydraulic atomizing fine spray nozzles

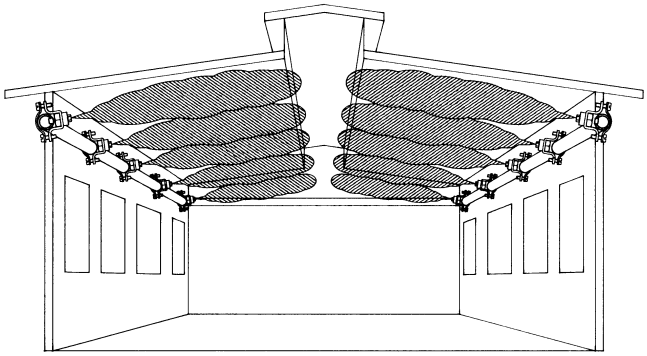
6MA - 1/8”P - RNP

Installazioni tipiche - *Typical installations*

Ugello montato con fascetta
Nozzle mounted with split-eyelet

Ugello montato con adattatore
Nozzle mounted with adapter

Schema d’installazione - *Installation layout*



Per ordinare - *To order*

Ugelli completi, specificare: - *Complete nozzles, please specify:*

1/8’’	P	0,24	BR	=	1/8P0,24BR
Attacco *Pipe connection*	Tipo *Type*	Codice *Code*	Materiale* *Material**		Esempio *Example*

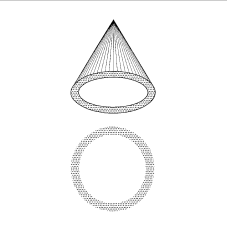
Solo punte di spruzzo, specificare: - *For only tips, please specify:*

RNP	0,20	BR	=	RNP0,20BR
Tipo *Type*	Codice *Code*	Materiale* *Material**		Esempio *Example*

*** Vedi Pag. 3 - *See page 3 for list***

Dimensioni massimo ingombro - *Maximum dimensions*

Attacco *Pipe connection*	Ugello tipo - *Nozzle type*							
	6MA		1/8”P		RNP		RRNP	
	A mm	B mm	A mm	B mm	A mm	B mm	A mm	B mm
6MA	10	10 hex						
1/8”			13	11 hex	48	21 hex	48	21 hex
1/4”					48	21 hex	48	21 hex
3/8”					48	22 hex	48	21 hex
1/2”					48	25 hex	48	22 hex



Ugelli a cono vuoto in polipropilene
Polypropylene hollow cone spray nozzles

CXP

CARATTERISTICHE DI SPRUZZO
Getto a cono vuoto con distribuzione uniforme, buona nebulizzazione a tutte le pressioni e proiezione ad angolo retto.

COSTRUZIONE
Realizzati in due pezzi con testa di spruzzo intercambiabile e passaggi completamente liberi per ridurre al minimo eventuali problemi di intasamento. Esistono anche con testine di spruzzo ad angolo ampio con caratteristiche tecniche identiche al CW illustrate a pag. 40-41. Gli ugelli CXP hanno un attacco femmina da 3/8” con filettatura Gas cilindrica (BSPP - UNI 338).

MATERIALI STANDARD
Polipropilene caricato con fibre di vetro.

APPLICAZIONI TIPICHE
Trattamento delle superfici dei metalli, processi chimici, sgrassatura prodotti, raffreddamento per evaporazione nelle torri, ecc.

SPRAY CHARACTERISTICS
This provides a hollow cone spray pattern with coverage uniformity over the entire ring-like surface as well as a good atomizing effect at all pressures. The sprayed fluid creates a right angle projection with the inlet axis.

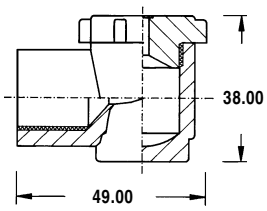
CONSTRUCTION
It is a two-piece moulded unit with interchangeable tips and its completely free passage reduces clogging problems to the minimum. They have their own appropriate wide angle tips which have the same characteristics as those of the CW series shown on the chart. (See page 40-41). All the CXP are exclusively available with Gas parallel threading (BSPP - UNI 338) 3/8” female pipe connection.

STANDARD MATERIALS
Fibreglass re-inforced polypropylene.

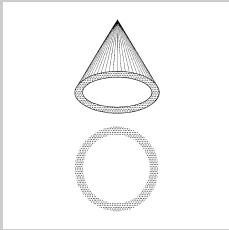
TYPICAL APPLICATIONS
Metal surface treatment, chemical processes, product degreasing, evaporative cooling in cooling towers, etc.

Tipo - *Type*

CXP



Ugelli a cono vuoto in polipropilene
Polypropylene hollow cone spray nozzles



CXP

Tabella delle portate - *Capacity chart*

Ugello - *Nozzle*			Diametro	Orifizio	Pressione - *Pressure* (Bar)													Angolo di spruzzo		
Attacco femmina	Tipo	Codice	Ingresso	*Orifice*	0,2	0,5	1	1,5	2	2,5	3	4	5	6	7	8	10	Spray angle		
Female connect.	*Type*	*Code*	Ø *Inlet mm*	Ø *Nom. mm*	Portata - *Capacity (l/ min)*													0,5 Bar	1,5 Bar	6 Bar
		5 - 5	3,57	3,18	1,01	1,60	2,26	2,76	3,19	3,57	3,91	4,51	5,05	5,53	5,97	6,38	7,14	55°	66°	81°
		5 - 8	3,57	4,37	1,21	1,92	2,71	3,32	3,83	4,28	4,69	5,42	6,06	6,63	7,17	7,66	8,56	60°	71°	86°
		5 - 10	3,57	4,76	1,35	2,14	3,02	3,70	4,28	4,78	5,24	6,05	6,76	7,41	8,00	8,55	9,56	70°	80°	90°
		5 - 15	3,57	5,95	1,61	2,55	3,61	4,42	5,11	5,71	6,25	7,22	8,07	8,85	9,55	10,21	11,42	75°	84°	94°
		5 - 20	3,57	6,35	1,74	2,74	3,88	4,75	5,49	6,14	6,72	7,76	8,68	9,51	10,27	10,98	12,28	87°	93°	99°
		5 - 25	3,57	7,54	1,92	3,03	4,29	5,25	6,06	6,78	7,43	8,58	9,59	10,50	11,35	12,13	13,56	90°	95°	101°
		5 - 40	3,57	9,13	2,22	3,51	4,97	6,08	7,02	7,85	8,60	9,93	11,10	12,16	13,14	14,04	15,70	98°	106°	109°
		8 - 5	4,37	3,18	1,21	1,92	2,71	3,32	3,83	4,28	4,69	5,42	6,06	6,63	7,17	7,66	8,56	53°	60°	68°
		8 - 8	4,37	4,37	1,61	2,55	3,61	4,42	5,11	5,71	6,25	7,22	8,07	8,85	9,55	10,21	11,42	59°	69°	75°
		8 - 15	4,37	5,95	2,22	3,51	4,97	6,08	7,02	7,85	8,60	9,93	11,10	12,16	13,14	14,04	15,70	70°	80°	87°
		8 - 20	4,37	6,35	2,42	3,83	5,42	6,63	7,66	8,56	9,38	10,83	12,11	13,27	14,33	15,32	17,13	80°	85°	90°
		8 - 25	4,37	7,54	2,62	4,15	5,87	7,19	8,30	9,28	10,16	11,74	13,12	14,37	15,53	16,60	18,56	82°	89°	93°
		8 - 40	4,37	9,13	3,23	5,11	7,22	8,85	10,21	11,42	12,51	14,44	16,15	17,69	19,11	20,43	22,84	87°	95°	99°
		8 - 60	4,37	13,10	4,04	6,38	9,03	11,06	12,77	14,27	15,64	18,06	20,19	22,11	23,89	25,53	28,55	97°	107°	111°
		10 - 5	5,16	3,18	1,31	2,07	2,93	3,59	4,15	4,64	5,08	5,87	6,56	7,19	7,76	8,30	9,28	51°	58°	65°
		10 - 8	5,16	4,37	1,74	2,74	3,88	4,75	5,49	6,14	6,72	7,76	8,68	9,51	10,27	10,98	12,28	58°	68°	72°
		10 - 10	5,16	4,76	2,02	3,19	4,51	5,53	6,38	7,14	7,82	9,03	10,09	11,06	11,94	12,77	14,27	62°	69°	77°
		10 - 15	5,16	5,95	2,42	3,83	5,42	6,63	7,66	8,56	9,38	10,83	12,11	13,27	14,33	15,32	17,13	69°	79°	83°
		10 - 20	5,16	6,35	2,83	4,47	6,32	7,74	8,94	9,99	10,95	12,64	14,13	15,48	16,72	17,87	19,98	74°	81°	85°
		10 - 25	5,16	7,54	3,03	4,79	6,77	8,29	9,58	10,71	11,73	13,54	15,14	16,59	17,91	19,15	21,41	78°	87°	92°
		10 - 40	5,16	9,13	3,84	6,06	8,58	10,50	12,13	13,56	14,85	17,15	19,18	21,01	22,69	24,26	27,12	85°	94°	98°
		10 - 50	5,16	11,11	4,44	7,02	9,93	12,16	14,04	15,70	17,20	19,86	22,21	24,33	26,27	28,09	31,40	93°	102°	107°
		10 - 60	5,16	13,10	5,05	7,98	11,28	13,82	15,96	17,84	19,55	22,57	25,23	27,64	29,86	31,92	35,69	95°	105°	109°
		15 - 5	5,95	3,18	1,53	2,43	3,43	4,20	4,85	5,42	5,94	6,86	7,67	8,40	9,08	9,70	10,85	40°	47°	59°
		15 - 8	5,95	4,37	2,02	3,19	4,51	5,53	6,38	7,14	7,82	9,03	10,09	11,06	11,94	12,77	14,27	50°	58°	64°
		15 - 10	5,95	4,76	2,42	3,83	5,42	6,63	7,66	8,56	9,38	10,83	12,11	13,27	14,33	15,32	17,13	52°	60°	67°
3/ 8”	**CXP**	**15 - 15**	5,95	5,95	3,03	4,79	6,77	8,29	9,58	10,71	11,73	13,54	15,14	16,59	17,91	19,15	21,41	60°	68°	72°
		15 - 20	5,95	6,35	3,43	5,43	7,67	9,40	10,85	12,13	13,29	15,35	17,16	18,80	20,30	21,70	24,27	64°	70°	75°
		15 - 25	5,95	7,54	4,04	6,38	9,03	11,06	12,77	14,27	15,64	18,06	20,19	22,11	23,89	25,53	28,55	66°	74°	78°
		15 - 40	5,95	9,13	5,05	7,98	11,28	13,82	15,96	17,84	19,55	22,57	25,23	27,64	29,86	31,92	35,69	81°	84°	87°
		15 - 50	5,95	11,11	6,06	9,58	13,54	16,59	19,15	21,41	23,46	27,08	30,28	33,17	35,83	38,30	42,82	84°	91°	98°
		15 - 60	5,95	13,10	7,07	11,17	15,80	19,35	22,34	24,98	27,36	31,60	35,33	38,70	41,80	44,69	49,96	90°	97°	102°
		20 - 5	7,14	3,18	1,68	2,65	3,75	4,59	5,30	5,92	6,49	7,49	8,38	9,18	9,91	10,60	11,85	35°	40°	55°
		20 - 10	7,14	4,76	2,83	4,47	6,32	7,74	8,94	9,99	10,95	12,64	14,13	15,48	16,72	17,87	19,98	39°	55°	65°
		20 - 15	7,14	5,95	3,63	5,75	8,13	9,95	11,49	12,85	14,07	16,25	18,17	19,90	21,50	22,98	25,69	55°	63°	68°
		20 - 20	7,14	6,35	4,04	6,38	9,03	11,06	12,77	14,27	15,64	18,06	20,19	22,11	23,89	25,53	28,55	59°	66°	70°
		20 - 25	7,14	7,54	5,05	7,98	11,28	13,82	15,96	17,84	19,55	22,57	25,23	27,64	29,86	31,92	35,69	65°	73°	77°
		20 - 40	7,14	9,13	5,85	9,26	13,09	16,03	18,51	20,70	22,67	26,18	29,27	32,06	34,63	37,03	41,40	80°	82°	86°
		20 - 50	7,14	11,11	7,07	11,17	15,80	19,35	22,34	24,98	27,36	31,60	35,33	38,70	41,80	44,69	49,96	83°	90°	97°
		25 - 10	7,54	4,76	3,03	4,79	6,77	8,29	9,58	10,71	11,73	13,54	15,14	16,59	17,91	19,15	21,41	35°	50°	59°
		25 - 20	7,54	6,35	4,44	7,02	9,93	12,16	14,04	15,70	17,20	19,86	22,21	24,33	26,27	28,09	31,40	53°	63°	68°
		25 - 25	7,54	7,54	5,05	7,98	11,28	13,82	15,96	17,84	19,55	22,57	25,23	27,64	29,86	31,92	35,69	60°	70°	74°
		25 - 40	7,54	9,13	6,46	10,21	14,44	17,69	20,43	22,84	25,02	28,89	32,30	35,38	38,22	40,86	45,68	69°	73°	79°
		25 - 60	7,54	13,10	9,08	14,36	20,31	24,88	28,73	32,12	35,18	40,63	45,42	49,76	53,74	57,45	64,23	83°	89°	92°
		40 - 8	9,53	4,37	3,03	4,79	6,77	8,29	9,58	10,71	11,73	13,54	15,14	16,59	17,91	19,15	21,41	20°	41°	48°
		40 - 10	9,53	4,76	3,63	5,75	8,13	9,95	11,49	12,85	14,07	16,25	18,17	19,90	21,50	22,98	25,69	23°	45°	53°
		40 - 15	9,53	5,95	4,84	7,66	10,83	13,27	15,32	17,13	18,76	21,67	24,22	26,54	28,66	30,64	34,26	34°	48°	57°
		40 - 20	9,53	6,35	5,45	8,62	12,19	14,93	17,24	19,27	21,11	24,38	27,25	29,85	32,25	34,47	38,54	42°	52°	59°
		40 - 25	9,53	7,54	6,46	10,21	14,44	17,69	20,43	22,84	25,02	28,89	32,30	35,38	38,22	40,86	45,68	48°	56°	61°
		40 - 40	9,53	9,13	8,07	12,77	18,06	22,11	25,53	28,55	31,27	36,11	40,37	44,23	47,77	51,07	57,10	67°	71°	73°
		40 - 50	9,53	11,11	10,09	15,96	22,57	27,64	31,92	35,69	39,09	45,14	50,47	55,28	59,71	63,84	71,37	68°	80°	84°
		40 - 60	9,53	13,10	12,11	19,15	27,08	33,17	38,30	42,82	46,91	54,17	60,56	66,34	71,66	76,60	85,65	80°	86°	90°

Installazione tipica - *Typical installation*

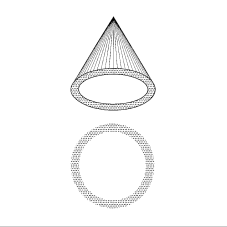
Fascetta tipo - HPG - *Split-eyelet*

Per ordinare - *To order*

Specificare: - *Specify:*

3/ 8”	CXP	15-20	MOP	=	3/ 8CXP15-20MOP
Attacco *Pipe connection*	Tipo *Type*	Codice *Code*	Materiale* *Material**		Esempio *Example*

* Vedi Pag. 3 - *See page 3 for list*



Ugelli a cono vuoto
Hollow cone spray nozzles

C - CC - CX - CCX - 2C - 2CC

CARATTERISTICHE DI SPRUZZO
Getto a cono vuoto con copertura uniforme, fine nebulizzazione a tutte le pressioni e proiezione ad angolo retto. I tipi 2C e 2CC producono un doppio getto in direzioni opposte e hanno una portata doppia rispetto a quella indicata in tabella.

COSTRUZIONE
Ad eccezione dei tipi 2C e 2CC con doppio getto in direzioni opposte che sono in tre pezzi, tutti gli altri sono costruiti in due pezzi. Tutti i modelli hanno le punte di spruzzo intercambiabili, l'assenza di diffusori interni elimina qualsiasi problema di intasamento e la testina di spruzzo rimovibile facilita le eventuali operazioni di pulizia dell'ugello. I tipi CX e CCX sono caratterizzati da un particolare disegno a fondo inclinato della camera di turbolenza che ha la funzione di prolungare la durata dell'ugello.
Tutti i tipi vengono forniti con filettatura standard Gas conica (BSPT - UNI 339). Altre filettature: NPT, Gas cilindrica (BSPP - UNI 338), ecc. vengono fornite su specifica richiesta.

MATERIALI STANDARD
Ottone, acciaio inox AISI 303, acciaio inox AISI 316 e PVC. Materiali diversi vengono forniti a richiesta. (Vedi pag. 3)

APPLICAZIONI TIPICHE
Umidificazione, lavaggio aria e gas, lavaggi industriali, impianti di bonderizzazione e fosfatazione, abbattimento polveri, controllo schiume nei processi chimici, pastorizzazione dei prodotti alimentari, raffreddamento aria e gas, raffreddamento acque, spruzzatura salamoia, ecc.

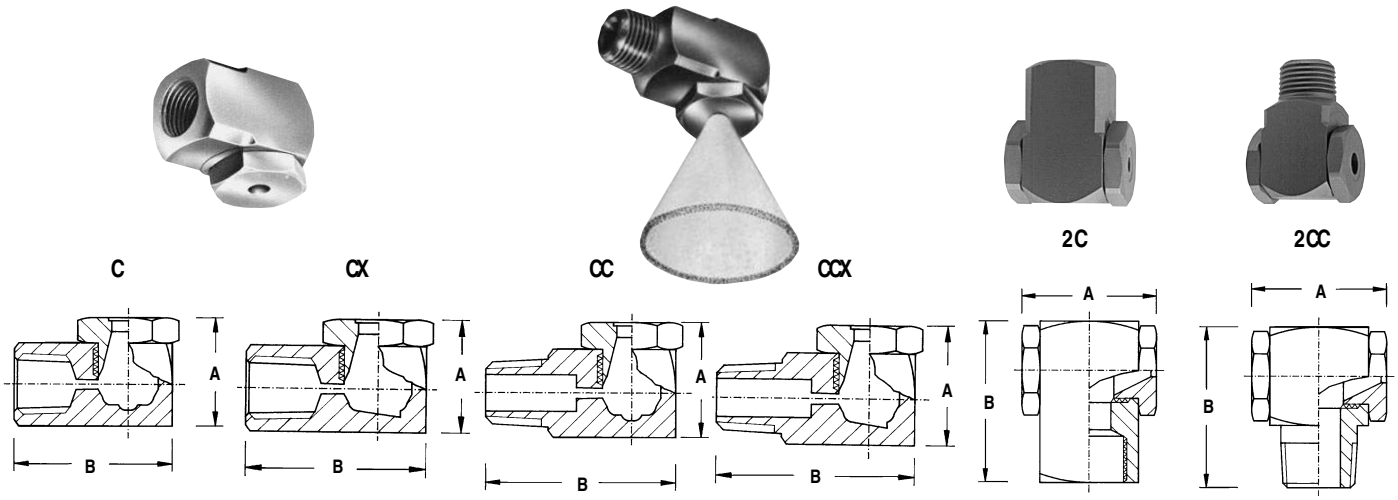
SPRAY CHARACTERISTICS
They all display a hollow-cone uniform spray pattern with right angle projection and a good atomizing effect at all operating pressures. The 2C and 2CC models have dual projection in opposed directions resulting in doubling up the flow rates with respect to their data shown on the capacity chart.

CONSTRUCTION
Except 2C and 2CC models which are three-piece units with dual projection in opposed directions, all the other types are two-piece units. All the above nozzle types have interchangeable tips. None of them has internal vane in order to prevent clogging problems and the removable tips facilitate the eventual cleaning of the entire nozzle.
The CX and CCX series are characterised by a special whirl-chamber with an inclined base which serves to prolong their durability.
All the above mentioned series are supplied with Gas tapered (BSPT - UNI 339) threading. Different threadings: NPT, Gas parallel (BSPP - UNI 338), etc are obtainable under special request.

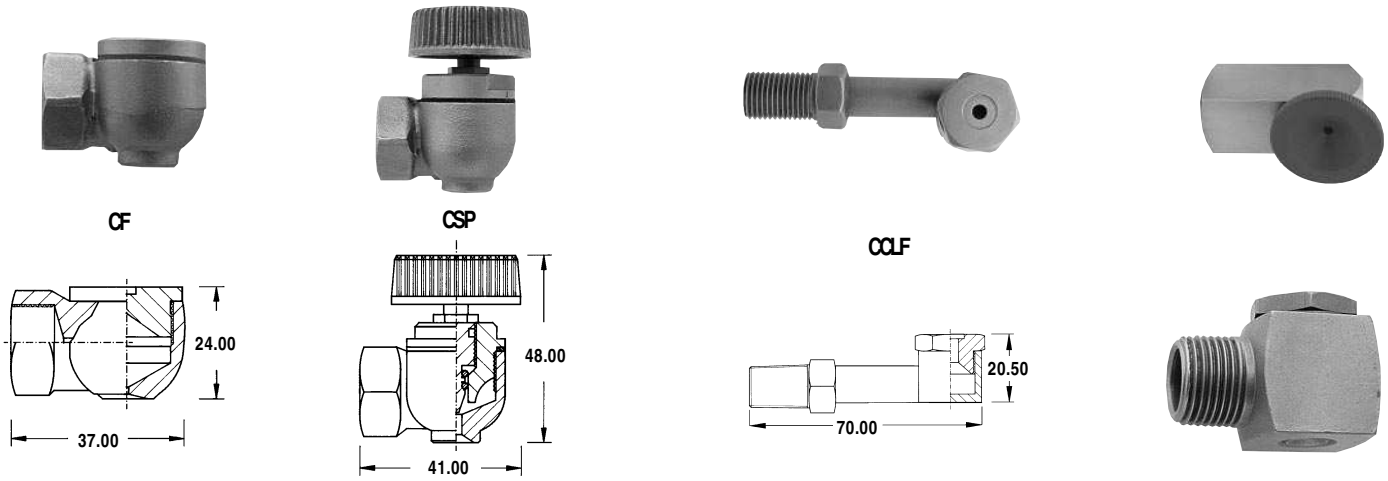
STANDARD MATERIALS
Brass, stainless steeel AISI 303, stainless steel AISI 316, PVC. Different materials are obtainable upon specific request (See page 3 for list).

TYPICAL APPLICATIONS
Humidification, air and gas washing, industrial washing, bonderizing and phosphatizing plants, dust control, foam control in chemical processes, food and drink pasteurization, air and gas cooling, salty water spraying, etc.

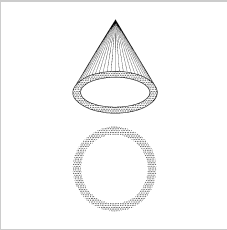
Tipi - *Types*



Costruzioni particolari - *Specially made nozzles*



Ugelli a cono vuoto
Hollow cone spray nozzles



C - CC - CX - CCX - 2C - 2CC

Tabella delle portate - *Capacity chart*

Ugello - *Nozzle*				Diametro Ingresso	Orifizio *Orifice*	Pressione - *Pressure (Bar)*											Angolo di spruzzo *Spray angle*		
Attacco *Pipe conn.*	Femmina *Female*	Maschio *Male*	Codice *Code*	Ø *Inlet* mm	Ø Nom. mm	0,2	0,5	1	1,5	2	2,5	3	4	5	6	7			
						Portata - *Capacity (l/ min)*											0,5 Bar	1,5 Bar	6 Bar
1/ 8"	C- CX - 2C	CC- CCX - 2CC	0,5	0,79	1,19	0,10	0,16	0,23	0,28	0,32	0,36	0,39	0,46	0,51	0,56	0,60	34°	58°	69°
			1	1,59	1,59	0,20	0,32	0,46	0,56	0,64	0,72	0,79	0,91	1,02	1,12	1,21	36°	64°	76°
			2	1,98	1,98	0,41	0,64	0,91	1,12	1,29	1,44	1,58	1,82	2,04	2,23	2,41	52°	61°	69°
			3	2,38	2,38	0,61	0,97	1,37	1,67	1,93	2,16	2,37	2,73	3,06	3,35	3,62	52°	64°	77°
			5	3,18	3,18	1,02	1,61	2,28	2,79	3,22	3,60	3,95	4,56	5,10	5,58	6,03	56°	67°	76°
			8	3,97	3,97	1,63	2,58	3,65	4,47	5,16	5,77	6,32	7,29	8,15	8,93	9,65	56°	65°	70°
			10	4,37	4,37	2,04	3,22	4,56	5,58	6,45	7,21	7,90	9,12	10,19	11,17	12,06	55°	65°	72°
1/ 4"	C- CX - 2C	CC- CCX - 2CC	1	1,59	1,59	0,20	0,32	0,46	0,56	0,64	0,72	0,79	0,91	1,02	1,12	1,21	45°	53°	67°
			2	1,98	1,98	0,41	0,64	0,91	1,12	1,29	1,44	1,58	1,82	2,04	2,23	2,41	48°	62°	71°
			3	2,38	2,38	0,61	0,97	1,37	1,67	1,93	2,16	2,37	2,73	3,06	3,35	3,62	51°	65°	78°
			5	3,57	3,57	1,02	1,61	2,28	2,79	3,22	3,60	3,95	4,56	5,10	5,58	6,03	63°	73°	79°
			8	3,97	3,97	1,63	2,58	3,65	4,47	5,16	5,77	6,32	7,29	8,15	8,93	9,65	61°	69°	73°
			10	4,76	4,37	2,04	3,22	4,56	5,58	6,45	7,21	7,90	9,12	10,19	11,17	12,06	63°	70°	74°
			15	5,95	5,16	3,06	4,83	6,84	8,37	9,67	10,81	11,84	13,67	15,29	16,75	18,09	63°	71°	72°
3/ 8"	C- CX - 2C	CC- CCX - 2CC	5	3,57	3,18	1,02	1,61	2,28	2,79	3,22	3,60	3,95	4,56	5,10	5,58	6,03	64°	73°	79°
			8	4,37	3,97	1,63	2,58	3,65	4,47	5,16	5,77	6,32	7,29	8,15	8,93	9,65	62°	70°	74°
			10	5,16	4,37	2,04	3,22	4,56	5,58	6,45	7,21	7,90	9,12	10,19	11,17	12,06	64°	72°	75°
			15	5,95	5,56	3,06	4,83	6,84	8,37	9,67	10,81	11,84	13,67	15,29	16,75	18,09	64°	72°	74°
			20	7,14	6,35	4,08	6,45	9,12	11,17	12,89	14,41	15,79	18,23	20,39	22,33	24,12	63°	70°	74°
			25	7,54	7,54	5,10	8,06	11,40	13,96	16,12	18,02	19,74	22,79	25,48	27,91	30,15	63°	70°	74°
			30	8,33	7,94	6,12	9,67	13,67	16,75	19,34	21,62	23,69	27,35	30,58	33,50	36,18	63°	70°	74°
			15 - 30,1	5,95	7,94	4,69	7,41	10,48	12,84	14,83	16,58	18,16	20,97	23,44	25,68	27,74	40°	50°	54°
			25 - 30,1	7,54	7,94	5,71	9,02	12,76	15,63	18,05	20,18	22,11	25,53	28,54	31,26	33,77	40°	47°	51°
			50 - 50,1	8,73	9,53	10,19	16,12	22,79	27,91	32,23	36,04	39,48	45,58	50,96	55,83	60,30	40°	47°	50°
			50 - 50,3	8,73	9,53	10,19	16,12	22,79	27,91	32,23	36,04	39,48	45,58	50,96	55,83	60,30	72°	76°	78°
1/ 2"	C- CX - 2C	CC- CCX - 2CC	25	9,53	6,35	5,10	8,06	11,40	13,96	16,12	18,02	19,74	22,79	25,48	27,91	30,15	63°	66°	71°
			30	9,53	7,54	6,12	9,67	13,67	16,75	19,34	21,62	23,69	27,35	30,58	33,50	36,18	67°	71°	75°
			40	9,53	9,13	8,15	12,89	18,23	22,33	25,79	28,83	31,58	36,47	40,77	44,66	48,24	72°	76°	78°
			50	9,53	11,11	10,19	16,12	22,79	27,91	32,23	36,04	39,48	45,58	50,96	55,83	60,30	74°	79°	82°
			60	9,53	13,10	12,23	19,34	27,35	33,50	38,68	43,24	47,37	54,70	61,16	66,99	72,36	77°	82°	86°
3/ 4"	C- CX - 2C	CC- CCX - 2CC	40	12,70	7,94	8,15	12,89	18,23	22,33	25,79	28,83	31,58	36,47	40,77	44,66	48,24	70°	73°	74°
			50	12,70	9,53	10,19	16,12	22,79	27,91	32,23	36,04	39,48	45,58	50,96	55,83	60,30	72°	75°	77°
			60	12,70	11,11	12,23	19,34	27,35	33,50	38,68	43,24	47,37	54,70	61,16	66,99	72,36	74°	76°	79°
			70	12,70	12,70	14,27	22,56	31,91	39,08	45,12	50,45	55,27	63,82	71,35	78,16	84,42	76°	79°	83°
			80	12,70	14,29	16,31	25,79	36,47	44,66	51,57	57,66	63,16	72,93	81,54	89,32	96,48	78°	82°	84°
			90	12,70	14,68	18,35	29,01	41,02	50,24	58,02	64,87	71,06	82,05	91,73	100,49	108,54	81°	84°	84°
			100	12,70	15,88	20,39	32,23	45,58	55,83	64,46	72,07	78,95	91,17	101,93	111,65	120,60	83°	86°	86°
			110	12,70	17,07	22,42	35,45	50,14	61,41	70,91	79,28	86,85	100,28	112,12	122,82	132,66	85°	88°	88°
			120	12,70	18,26	24,46	38,68	54,70	66,99	77,36	86,49	94,74	109,40	122,31	133,98	144,72	87°	90°	90°

Per ordinare - *To order*

Specificare: - *Specify:*

1/ 4''	CC	2	SS	=	1/ 4CC2SS
Attacco *Pipe connection*	Tipo *Type*	Codice *Code*	Materiale* *Material**		Esempio *Example*

* Vedi Pag. 3 - *See page 3 for list*

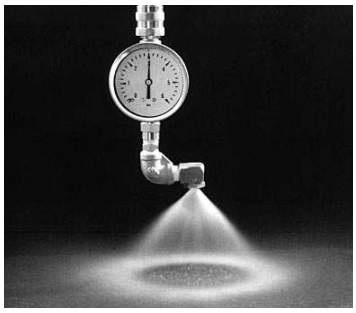
Dimensioni massimo ingombro - *Maximum dimensions*

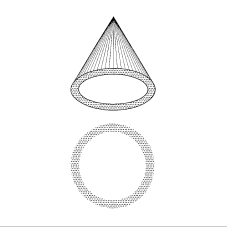
Attacco *Pipe connection*	Tipo ugello - *Nozzle type*							
	C-CX		CC-CCX		2C		2CC	
	A mm	B mm	A mm	B mm	A mm	B mm	A mm	B mm
1/ 8"	17	23	17	29	20	27	20	33
1/ 4"	20	29	20	33	24	34	24	38
3/ 8"	25	34	25	38	30	39	30	43
1/ 2"	32	46	32	48	36	52	36	54
3/ 4"	39	51	39	57	46	57	46	63

Installazioni tipiche - *Typical installations*

Ugello montato con giunto orientabile
Nozzle mounted with adjustable ball joint

Ugello montato con fascetta
Nozzle mounted with split-eyelet





Ugelli a cono vuoto per grandi portate
High flow-rate hollow cone spray nozzles

C - CC

CARATTERISTICHE DI SPRUZZO
Getto a cono vuoto con distribuzione uniforme a tutte le pressioni, buona nebulizzazione e proiezione ad angolo retto.

COSTRUZIONE
Ugelli ricavati da fusione in un unico pezzo con passaggio interno molto grande rispetto agli altri ugelli a cono vuoto. I tipi C e CC, pertanto, non hanno problemi di intasamento e sono consigliati per l'uso di liquidi non perfettamente puliti o liquidi che trasportano particelle in sospensione. Tutti questi ugelli hanno attacchi con filettatura standard Gas conica (BSPT - UNI 339). La filettatura NPT è disponibile su specifica richiesta.

MATERIALI STANDARD
Gli ugelli con attacchi da 1/2" e da 3/4" vengono forniti in ottone o ghisa. Per gli ugelli con attacco da 1" o maggiore sono forniti in ottone, ghisa e acciaio inox AISI 316. Materiali diversi vengono forniti su specifica richiesta (Vedi pag. 3).

APPLICAZIONI TIPICHE
Raffreddamento per evaporazione nei bacini di spruzzo e nelle torri, controllo inquinamento nucleare, aerazione, processi chimici, ecc.

SPRAY CHARACTERISTICS
They have a hollow-cone spray pattern with distribution uniformity on the entirely covered ring-like surface at all pressures as well as with a good atomizing effect. The spray projection is at 90° with respect to the inlet axis.

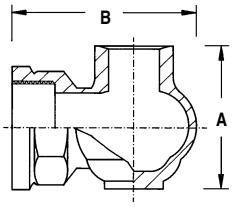
CONSTRUCTION
Both nozzles are single-piece cast types with larger internal passages than those of the other hollow and even full cone spray nozzle types. The C and CC series therefore have no clogging problems even in cases whereby the used-in liquids carry foreign particles.
All these nozzles are standard Gas tapered (BSPT - UNI 339) series, whereas the NPT threading is supplied under special request.

STANDARD MATERIALS
Brass or cast-iron for 1/2" and 3/4" pipe connection sizes, brass, cast-iron or stainless steel AISI 316 for nozzles of 1" size and over. Different product materials are available upon special request (See page 3 for list)

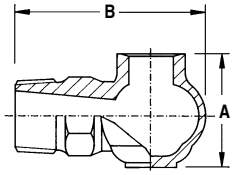
TYPICAL APPLICATIONS
Evaporative cooling in spray ponds and cooling towers, nuclear pollution control, aeration, chemical processes, etc.

Tipi - *Types*

C



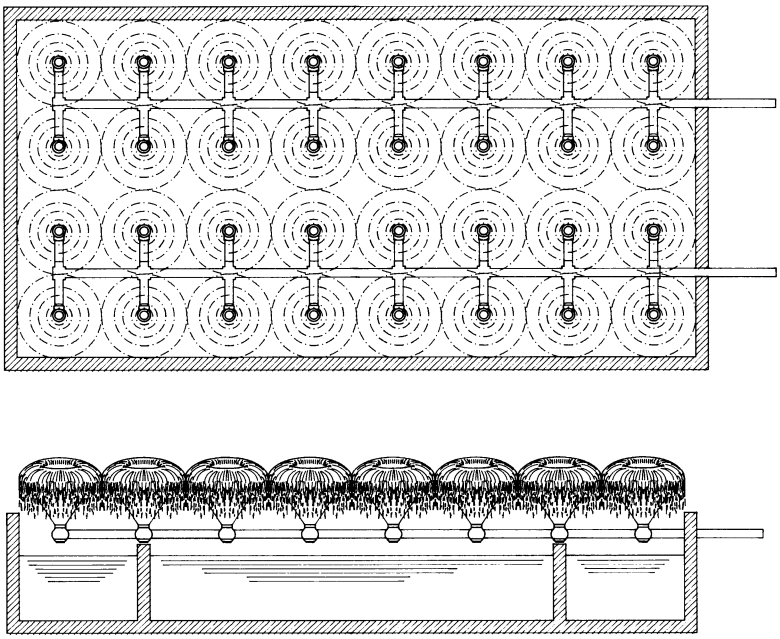
C



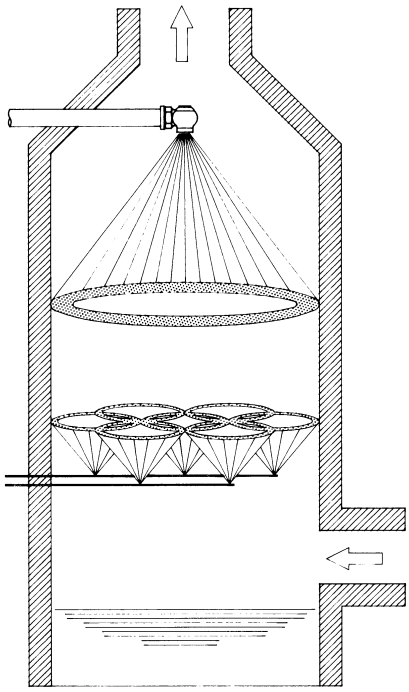
CC

Applicazioni tipiche - *Typical applications*

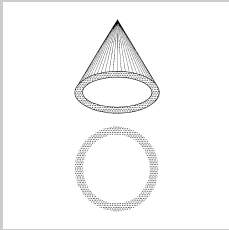
Bacino di raffreddamento - *Cooling pond*



Torre di lavaggio fumi - *Washing smoke tower*



Ugelli a cono vuoto per grandi portate
High flow-rate hollow cone spray nozzles

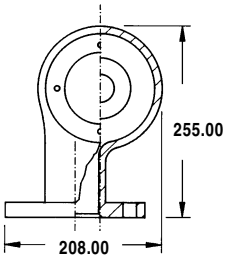


C - CC

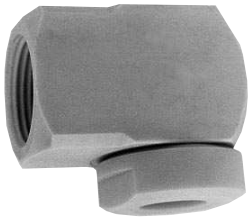
Tabella delle portate - *Capacity chart*

Ugello - *Nozzle*				Diametro Ingresso	Orifizio *Orifice*	Pressione - *Pressure* (Bar)												Angolo di spruzzo Spray angle		
Attacco *Pipe conn.*	Femmina *Female*	Maschio *Male*	Codice *Code*	Ø *Inlet* mm	Ø Nom. mm	0,2	0,3	0,35	0,5	0,7	1	1,5	2	3	4	5	7			
						Portata - *Capacity (l/ min)*												0,5 Bar	1,5 Bar	4 Bar
1/ 2"	C	CC	3	11,11	7,94	7,31	8,95	9,67	11,56	13,68	16,35	20,02	23,12	28,31	32,69	36,55	43,25	62°	65°	67°
			4	11,11	9,92	9,75	11,94	12,89	15,41	18,24	21,79	26,69	30,82	37,75	43,59	48,74	57,66	68°	71°	73°
			5	11,11	11,91	12,18	14,92	16,12	19,26	22,79	27,24	33,37	38,53	47,19	54,49	60,92	72,08	74°	77°	80°
			7	11,11	13,89	17,06	20,89	22,56	26,97	31,91	38,14	46,71	53,94	66,06	76,28	85,29	100,91	77°	80°	83°
3/ 4"	C	CC	4	15,08	9,13	9,75	11,94	12,89	15,41	18,24	21,79	26,69	30,82	37,75	43,59	48,74	57,66	65°	66°	67°
			5	15,08	10,72	12,18	14,92	16,12	19,26	22,79	27,24	33,37	38,53	47,19	54,49	60,92	72,08	68°	69°	70°
			6	15,08	12,30	14,62	17,91	19,34	23,12	27,35	32,69	40,04	46,23	56,63	65,38	73,10	86,50	70°	73°	77°
			7	15,08	13,89	17,06	20,89	22,56	26,97	31,91	38,14	46,71	53,94	66,06	76,28	85,29	100,91	72°	75°	80°
			10	15,08	16,67	24,37	29,84	32,24	38,53	45,59	54,49	66,73	77,06	94,38	108,97	121,84	144,16	77°	80°	84°
1"	C		7	17,46	11,51	17,06	20,89	22,56	26,97	31,91	38,14	46,71	53,94	66,06	76,28	85,29	100,91	64°	65°	66°
			8	17,46	12,70	19,49	23,88	25,79	30,82	36,47	43,59	53,39	61,65	75,50	87,18	97,47	115,33	65°	66°	67°
			9	17,46	14,29	21,93	26,86	29,01	34,68	41,03	49,04	60,06	69,35	84,94	98,08	109,65	129,74	66°	67°	69°
			10	17,46	15,48	24,37	29,84	32,24	38,53	45,59	54,49	66,73	77,06	94,38	108,97	121,84	144,16	67°	69°	71°
			12	17,46	17,07	29,24	35,81	38,68	46,23	54,71	65,38	80,08	92,47	113,25	130,77	146,21	172,99	70°	73°	75°
			15	17,46	20,64	36,55	44,77	48,35	57,79	68,38	81,73	100,10	115,59	141,56	163,46	182,76	216,24	76°	79°	81°
1 1/ 4"	C		10	21,43	14,29	24,37	29,84	32,24	38,53	45,59	54,49	66,73	77,06	94,38	108,97	121,84	144,16	65°	67°	67°
			12	21,43	16,27	29,24	35,81	38,68	46,23	54,71	65,38	80,08	92,47	113,25	130,77	146,21	172,99	68°	70°	71°
			14	21,43	18,26	34,11	41,78	45,13	53,94	63,82	76,28	93,43	107,88	132,13	152,56	170,57	201,82	71°	73°	75°
			16	21,43	20,24	38,99	47,75	51,58	61,65	72,94	87,18	106,77	123,29	151,00	174,36	194,94	230,66	74°	75°	77°
			20	21,43	24,21	48,74	59,69	64,47	77,06	91,18	108,97	133,47	154,11	188,75	217,95	243,68	288,32	76°	77°	79°
1 1/ 2"	C		16	27,78	17,46	38,99	47,75	51,58	61,65	72,94	87,18	106,77	123,29	151,00	174,36	194,94	230,66	64°	67°	69°
			20	27,78	21,83	48,74	59,69	64,47	77,06	91,18	108,97	133,47	154,11	188,75	217,95	243,68	288,32	69°	72°	74°
			25	27,78	25,80	60,92	74,61	80,59	96,32	113,97	136,22	166,83	192,64	235,94	272,44	304,59	360,40	72°	74°	76°
			30	27,78	28,58	73,10	89,53	96,71	115,59	136,76	163,46	200,20	231,17	283,13	326,92	365,51	432,48	74°	76°	78°
2"	C		30	36,51	23,81	73,10	89,53	96,71	115,59	136,76	163,46	200,20	231,17	283,13	326,92	365,51	432,48	66°	67°	70°
			35	36,51	26,99	85,29	104,45	112,82	134,85	159,56	190,71	233,57	269,70	330,31	381,41	426,43	504,56	68°	70°	73°
			40	36,51	30,16	97,47	119,38	128,94	154,11	182,35	217,95	266,93	308,23	377,50	435,90	487,35	576,64	70°	72°	75°
			45	36,51	32,94	109,65	134,30	145,06	173,38	205,14	245,19	300,30	346,76	424,69	490,39	548,27	648,72	72°	74°	78°
			50	36,51	36,12	121,84	149,22	161,18	192,64	227,94	272,44	333,67	385,28	471,88	544,87	609,19	720,80	74°	77°	82°
			60	36,51	39,69	146,21	179,06	193,41	231,17	273,53	326,92	400,40	462,34	566,25	653,85	731,03	864,96	77°	79°	84°
2 1/ 2"	C		60	47,63	36,12	146,21	179,06	193,41	231,17	273,53	326,92	400,40	462,34	566,25	653,85	731,03	864,96	67°	68°	71°
			70	47,63	40,48	170,57	208,91	225,65	269,70	319,11	381,41	467,13	539,40	660,63	762,82	852,86	1.009,12	69°	71°	74°
			80	47,63	44,05	194,94	238,75	257,88	308,23	364,70	435,90	533,87	616,46	755,00	871,80	974,70	1.153,28	71°	73°	77°
			90	47,63	47,63	219,31	268,60	290,12	346,76	410,29	490,39	600,60	693,51	849,38	980,77	1.096,54	1.297,44	73°	75°	80°
			100	47,63	50,80	243,68	298,44	322,35	385,28	455,88	544,87	667,33	770,57	943,75	1.089,75	1.218,38	1.441,60	77°	79°	83°

Costruzioni speciali - *Specially made nozzles*



CCDF



Dimensioni massimo ingombro
Maximum dimensions

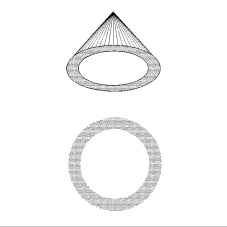
Attacco *Pipe connection*	Ugello tipo - *Nozzle type* C		CC	
	A mm	B mm	A mm	B mm
1/ 2"	34	48	34	59
3/ 4"	42	58	42	69
1"	47	67		
1 1/ 4"	56	78		
1 1/ 2"	73	94		
2"	94	115		
2 1/ 2"	115	141		

Per ordinare - *To order*

Specificare: - *Specify:*

1 1/ 2"	C	20	SS316	=	1 1/2C20SS316
Attacco *Pipe connection*	Tipo *Type*	Codice *Code*	Materiale* *Material**		Esempio *Example*

* Vedi Pag. 3 - *See page 3 for list*



Ugelli a cono vuoto con angolo ampio
Wide angle hollow cone spray nozzles

CW - CCW - CXW - CCXW

CARATTERISTICHE DI SPRUZZO
Getto a cono vuoto con angolo ampio, fine nebulizzazione a tutte le pressioni e proiezione ad angolo retto.

COSTRUZIONE
Realizzati in due pezzi con testa di spruzzo intercambiabile. L'assenza di diffusori interni elimina qualsiasi forma di intasamento e la testa rimovibile facilita le eventuali operazioni di pulizia dell'ugello. I tipi CXW e CCXW sono caratterizzati da un particolare disegno a fondo inclinato della camera di turbolenza che ha la funzione di prolungare la durata dell'ugello. Tutti i modelli hanno attacchi con filettatura Gas conica (BSPT - UNI 339). Filettature diverse: NPT, Gas cilindrica (BSPP - UNI 338), ecc. sono fornite su specifica richiesta.

MATERIALI STANDARD
Ottone, acciaio inox AISI 303, acciaio inox AISI 316 e PVC. Altri materiali vengono forniti a richiesta. (Vedi pag. 3)

APPLICAZIONI TIPICHE
Umidificazione, lavaggio aria e gas, lavaggi industriali, impianti di bonderizzazione, fosfatazione e decapaggio, abbattimento polveri, controllo schiume nei processi chimici, pastorizzazione prodotti alimentari, raffreddamento aria e gas, raffreddamento acque, spruzzatura di salamoia, raffreddamento tetti, ecc.

SPRAY CHARACTERISTICS
These produce a hollow cone uniform spray pattern with wide spray angle and a good atomizing effect at all pressures. The fluid outlet is at 90° with respect to the pipe connection.

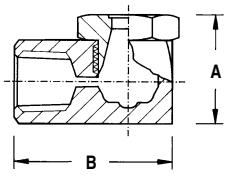
CONSTRUCTION
They are all two-piece units with interchangeable tips. They have no internal vane in order to eliminate clogging problems and their removable tips facilitate the cleaning of the entire nozzles.
The CXW and CCXW series are built with an inclined-base whirl chamber necessary to extend their durability.
All these nozzle types have a standard Gas tapered (BSPT - UNI 339) threading. Different threadings: NPT, Gas parallel (BSPP - UNI 338), etc. are supplied under specific request.

STANDARD MATERIALS
Brass, stainless steel AISI 303, stainless steel AISI 316 and PVC. Different product materials are obtainable under specific request. (See page 3 for list)

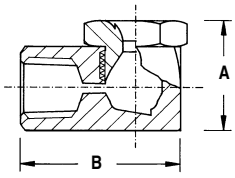
TYPICAL APPLICATIONS
Humidifying, air and gas washing, industrial washing, bonderizing plants, phosphatizing and pickling, dust control, foam control in chemical processes, food and drink pasteurization, air and gas cooling, water cooling, salty water spraying, roof cooling, etc.

Tipi - *Types*

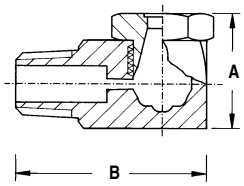
CW



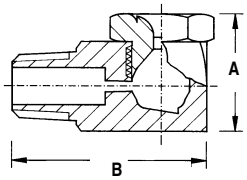
CXW



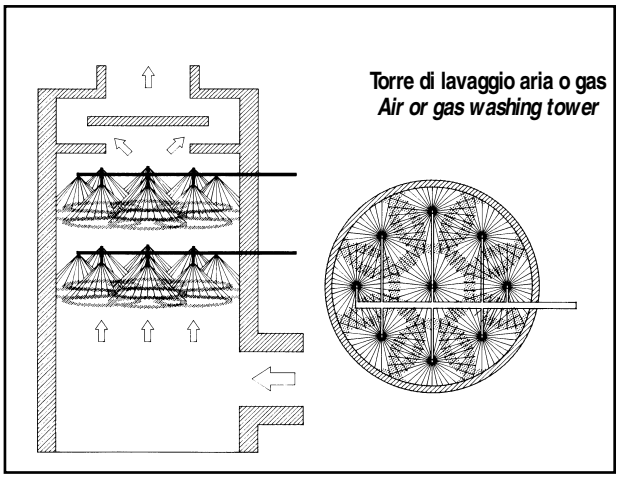
CCW

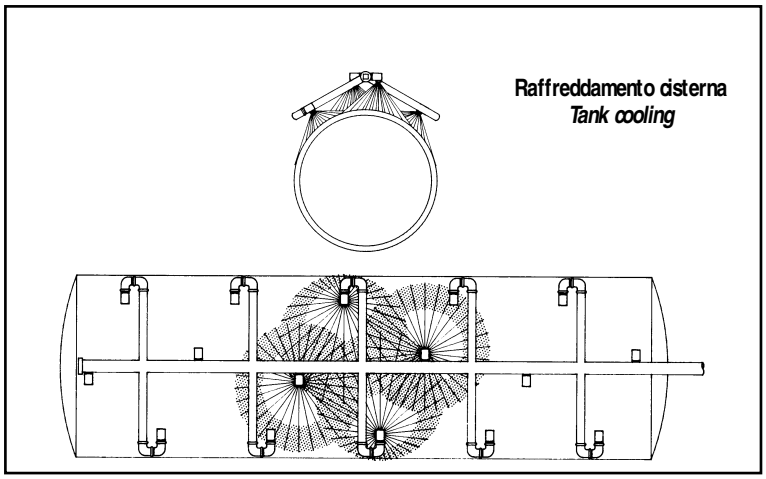


CCXW

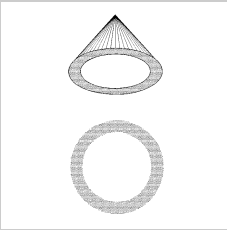


Applicazioni tipiche - *Typical applications*





Ugelli a cono vuoto con angolo ampio
Wide angle hollow cone spray nozzles



CW - CCW - CXW - CCXW

Tabella delle portate - *Capacity chart*

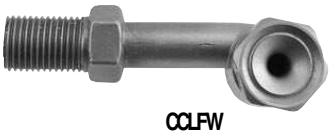
Ugello - *Nozzle*				Diametro Ingresso	Orifizio *Orifice*	Pressione - *Pressure* (Bar)												Angolo di spruzzo Spray angle		
Attacco *Pipe conn.*	Femmina *Female*	Maschio *Male*	Codice *Code*	Ø *Inlet* mm	Ø Nom. mm	0,3	0,5	1	1,5	2	2,5	3	4	5	6	7	10			
						Portata - *Capacity (l/ min)*												0,7 Bar	1,5 Bar	6 Bar
1/ 8"	C- CX	CC- CCX	0,5 - 0,5 W	0,79	1,19	0,12	0,16	0,23	0,28	0,32	0,36	0,39	0,46	0,51	0,56	0,60	0,72	112°	116°	98°
			1 - 1 W	1,59	1,59	0,25	0,32	0,46	0,56	0,64	0,72	0,79	0,91	1,02	1,12	1,21	1,44	114°	126°	110°
			2 - 3 W	1,98	2,78	0,62	0,81	1,14	1,40	1,61	1,80	1,97	2,28	2,55	2,79	3,02	3,60	114°	114°	96°
			3 - 3 W	2,38	2,78	0,75	0,97	1,37	1,67	1,93	2,16	2,37	2,73	3,06	3,35	3,62	4,32	114°	114°	96°
			3 - 5 W	2,38	3,18	0,85	1,10	1,55	1,90	2,19	2,45	2,68	3,10	3,47	3,80	4,10	4,90	116°	110°	95°
			2 - 10 W	1,98	4,37	1,02	1,32	1,87	2,29	2,64	2,95	3,24	3,74	4,18	4,58	4,94	5,91	130°	135°	120°
			5 - 5 W	3,18	3,18	1,25	1,61	2,28	2,79	3,22	3,60	3,95	4,56	5,10	5,58	6,03	7,21	116°	110°	92°
			5 - 10 W	3,18	4,37	1,62	2,10	2,96	3,63	4,19	4,68	5,13	5,93	6,63	7,26	7,84	9,37	126°	120°	95°
			8 - 10 W	3,97	4,37	2,25	2,90	4,10	5,02	5,80	6,49	7,11	8,20	9,17	10,05	10,85	12,97	124°	112°	90°
1/ 4"	C- CX	CC- CCX	1 - 1 W	1,59	1,59	0,25	0,32	0,46	0,56	0,64	0,72	0,79	0,91	1,02	1,12	1,21	1,44	110°	118°	110°
			1 - 5 W	1,59	3,18	0,42	0,55	0,77	0,95	1,10	1,23	1,34	1,55	1,73	1,90	2,05	2,45	100°	124°	124°
			1 - 10 W	1,59	4,37	0,52	0,68	0,96	1,17	1,35	1,51	1,66	1,91	2,14	2,34	2,53	3,03	112°	145°	139°
			1 - 15 W	1,59	5,56	0,60	0,77	1,09	1,34	1,55	1,73	1,89	2,19	2,45	2,68	2,89	3,46	105°	126°	132°
			2 - 5 W	1,98	3,18	0,85	1,10	1,55	1,90	2,19	2,45	2,68	3,10	3,47	3,80	4,10	4,90	118°	120°	114°
			2 - 10 W	1,98	4,37	1,02	1,32	1,87	2,29	2,64	2,95	3,24	3,74	4,18	4,58	4,94	5,91	138°	135°	125°
			5 - 5 W	3,57	3,18	1,25	1,61	2,28	2,79	3,22	3,60	3,95	4,56	5,10	5,58	6,03	7,21	114°	112°	105°
			5 - 10 W	3,57	4,37	1,62	2,10	2,96	3,63	4,19	4,68	5,13	5,93	6,63	7,26	7,84	9,37	130°	130°	120°
			5 - 15 W	3,57	5,56	1,92	2,48	3,51	4,30	4,96	5,55	6,08	7,02	7,85	8,60	9,29	11,10	130°	132°	120°
			8 - 10 W	3,97	4,37	2,25	2,90	4,10	5,02	5,80	6,49	7,11	8,20	9,17	10,05	10,85	12,97	129°	122°	130°
			10 - 10 W	4,76	4,37	2,50	3,22	4,56	5,58	6,45	7,21	7,90	9,12	10,19	11,17	12,06	14,41	120°	108°	95°
			8 - 15 W	3,97	5,56	2,75	3,55	5,01	6,14	7,09	7,93	8,68	10,03	11,21	12,28	13,27	15,86	129°	122°	106°
			10 - 15 W	4,76	5,56	3,00	3,87	5,47	6,70	7,74	8,65	9,47	10,94	12,23	13,40	14,47	17,30	120°	108°	98°
			15 - 15 W	5,95	5,56	3,74	4,83	6,84	8,37	9,67	10,81	11,84	13,67	15,29	16,75	18,09	21,62	101°	95°	88°
3/ 8"	C- CX	CC- CCX	5 - 10 W	3,57	4,37	1,62	2,10	2,96	3,63	4,19	4,68	5,13	5,93	6,63	7,26	7,84	9,37	130°	124°	102°
			5 - 15 W	3,57	5,56	1,92	2,48	3,51	4,30	4,96	5,55	6,08	7,02	7,85	8,60	9,29	11,10	138°	130°	112°
			8 - 10 W	4,37	4,37	2,25	2,90	4,10	5,02	5,80	6,49	7,11	8,20	9,17	10,05	10,85	12,97	122°	110°	96°
			10 - 10 W	5,16	4,37	2,50	3,22	4,56	5,58	6,45	7,21	7,90	9,12	10,19	11,17	12,06	14,41	116°	108°	94°
			8 - 15 W	4,37	5,56	2,75	3,55	5,01	6,14	7,09	7,93	8,68	10,03	11,21	12,28	13,27	15,86	133°	120°	105°
			10 - 15 W	5,16	5,56	3,00	3,87	5,47	6,70	7,74	8,65	9,47	10,94	12,23	13,40	14,47	17,30	126°	115°	100°
			8 - 25 W	4,37	7,54	3,25	4,19	5,93	7,26	8,38	9,37	10,26	11,85	13,25	14,52	15,68	18,74	122°	118°	110°
			10 - 20 W	5,16	5,95	3,50	4,51	6,38	7,82	9,02	10,09	11,05	12,76	14,27	15,63	16,88	20,18	118°	102°	102°
			15 - 15 W	5,95	5,56	3,74	4,83	6,84	8,37	9,67	10,81	11,84	13,67	15,29	16,75	18,09	21,62	115°	106°	95°
			15 - 20 W	5,95	5,95	4,24	5,48	7,75	9,49	10,96	12,25	13,42	15,50	17,33	18,98	20,50	24,50	115°	108°	98°
			20 - 20 W	7,14	5,95	4,99	6,45	9,12	11,17	12,89	14,41	15,79	18,23	20,39	22,33	24,12	28,83	105°	102°	95°
			15 - 30 W	5,95	7,94	5,49	7,09	10,03	12,28	14,18	15,86	17,37	20,06	22,42	24,56	26,53	31,71	115°	110°	102°
			25 - 25 W	7,54	7,54	6,24	8,06	11,40	13,96	16,12	18,02	19,74	22,79	25,48	27,91	30,15	36,04	105°	100°	93°
			25 - 30 W	7,54	7,94	6,99	9,02	12,76	15,63	18,05	20,18	22,11	25,53	28,54	31,26	33,77	40,36	105°	102°	94°
1/ 2"	C- CX	CC- CCX	50 - 50 W	9,53	11,11	12,48	16,12	22,79	27,91	32,23	36,04	39,48	45,58	50,96	55,83	60,30	72,07	110°	103°	93°
3/ 4"	C- CX	CC- CCX	80 - 80 W	12,70	14,29	19,97	25,79	36,47	44,66	51,57	57,66	63,16	72,93	81,54	89,32	96,48	115,32	115°	108°	98°

Installazioni tipiche - *Typical installations*

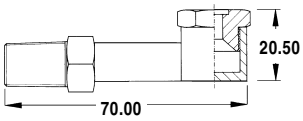
Ugello montato con fascetta
Nozzle mounted with split-eyelet

Ugello montato con giunto orientabile
Nozzle mounted with adjustable ball joint

Costruzione particolare - *Specially made nozzle*



CCLFW



Per ordinare - *To order*

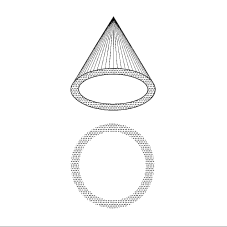
Specificare: - *Specify:*

1/ 8''	CC	5-5W	BR	=	1/ 8CC5-5WBR
Attacco *Pipe connection*	Tipo *Type*	Codice *Code*	Materiale* *Material**		Esempio *Example*

* Vedi Pag. 3 - *See page 3 for list*

Dimensioni massimo ingombro
Maximum dimensions

Attacco *Pipe connection*	Ugello tipo - *Nozzle type*			
	CW -CXW		CCW - CCXW	
	A mm	B mm	A mm	B mm
1/ 8"	17	23	17	29
1/ 4"	20	29	20	33
3/ 8"	25	34	25	38
1/ 2"	32	56	32	48
3/ 4"	39	51	39	57



Ugelli a cono vuoto
Hollow cone spray nozzles

RDC - RRDC

CARATTERISTICHE DI SPRUZZO
Getto a cono vuoto con distribuzione uniforme su tutta la superfice e fine nebulizzazione a tutte le pressioni.

COSTRUZIONE
Costituiti da un insieme formato da un dischetto orifizio e da un dischetto diffusore. Questi dischetti sono perfettamente intercambiabili con tutte le punte e relativi corpi e ghiere della serie R1. Per evitare eventuali problemi di intasamento è consigliabile l'uso degli appositi filtri a fessure che vengono forniti su specifica richiesta. (Vedi pagg. 112÷116)

MATERIALI STANDARD
Il dischetto orifizio è realizzato in acciaio inox temprato mentre il dischetto diffusore viene fornito in nylon o in acciaio inox AISI 304.

APPLICAZIONI TIPICHE
Spruzzatura di insetticidi e diserbanti, spruzzatura di polveri e liquidi abrasivi, lavaggio e raffreddamento aria e gas, ecc.

SPRAY CHARACTERISTICS
This model creates a hollow- cone spray pattern uniformity over the entirely covered ring-like surface as well as offers a good atomizing function at all pressures.

CONSTRUCTION
This type has a combined unit of an orifice disc and its disc core which are perfectly interchangeable with the spray tip models of the R1 series on the same basic bodies and their corresponding cap retainers. (See pages 112÷116)
It is adviceable to use their appropriate flanged slotted strainers which are available upon request.

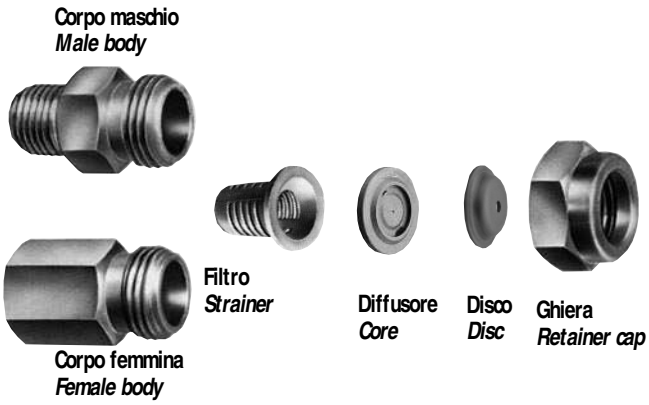
STANDARD MATERIALS
Hardened stainless steel orifice disc and nylon-made or stainless steel AISI 304 disc core.

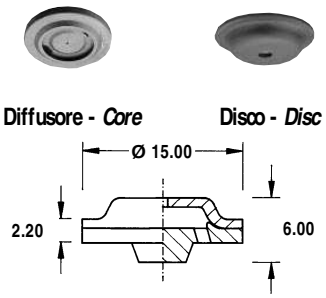
TYPICAL APPLICATIONS
Spraying of insecticides or herbicides, abrasive liquid and dust spraying, dust control, air-gas washing and cooling, etc.

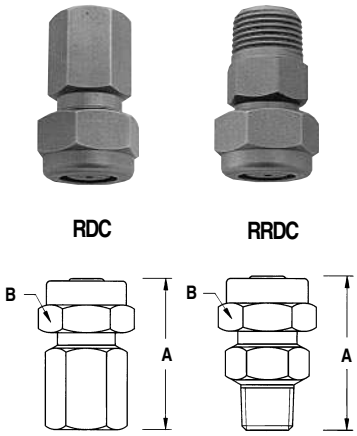
Tabella delle portate - *Capacity chart*

Ugello - *Nozzle*				Orifizio	Pressione - *Pressure* (Bar)																Angolo di spruzzo Spray angle		
Attacco *Pipe connect.*	Femmina *Female*	Maschio *Male*	Codice *Code*	*Orifice* Ø Nom. mm	0,7	1	1,5	2	2,5	3	4	5	6	7	8	9	10	12	15	20			
					Portata - *Capacity (l/ min)*																3 Bar	5 Bar	10 Bar
1/ 8" 1/ 4" 3/ 8" 1/ 2"	RDC	RRDC	**1-23**	1,0	0,23	0,28	0,34	0,39	0,44	0,48	0,55	0,62	0,68	0,73	0,78	0,83	0,88	0,96	1,07	1,24	55°	60°	65°
			1,2-23	1,2	0,24	0,29	0,36	0,41	0,46	0,50	0,58	0,65	0,71	0,77	0,82	0,87	0,92	1,01	1,13	1,30	70°	75°	80°
			1-25	1,0	0,30	0,35	0,43	0,50	0,56	0,61	0,71	0,79	0,87	0,93	1,00	1,06	1,12	1,22	1,37	1,58	50°	60°	65°
			1,5-23	1,5	0,32	0,38	0,47	0,54	0,60	0,66	0,76	0,85	0,93	1,01	1,08	1,14	1,20	1,32	1,47	1,70	80°	80°	85°
			1,2-25	1,2	0,41	0,49	0,60	0,70	0,78	0,85	0,98	1,10	1,20	1,30	1,39	1,48	1,56	1,70	1,91	2,20	55°	60°	65°
			1,5-25	1,5	0,52	0,63	0,77	0,89	0,99	1,08	1,25	1,40	1,53	1,66	1,77	1,88	1,98	2,17	2,42	2,80	70°	70°	75°
			1,8-25	1,8	0,65	0,78	0,96	1,11	1,24	1,36	1,57	1,75	1,92	2,07	2,21	2,35	2,47	2,71	3,03	3,50	75°	80°	80°
			1,5-45	1,5	0,73	0,87	1,07	1,23	1,38	1,51	1,74	1,95	2,14	2,31	2,47	2,62	2,76	3,02	3,38	3,90	55°	60°	65°
			2-25	2,0	0,80	0,96	1,18	1,36	1,52	1,67	1,92	2,15	2,36	2,54	2,72	2,88	3,04	3,33	3,72	4,30	80°	80°	85°
			1,8-45	1,8	0,95	1,14	1,40	1,61	1,80	1,98	2,28	2,55	2,79	3,02	3,23	3,42	3,61	3,95	4,42	5,10	60°	60°	65°
			2-45	2,0	1,07	1,27	1,56	1,80	2,02	2,21	2,55	2,85	3,12	3,37	3,60	3,82	4,03	4,42	4,94	5,70	60°	70°	75°

Componenti serie - RDC-RRDC - *Series components*







Diffusore cono pieno
Full cone core

Per ordinare - *To order*

Ugelli completi, specificare: - *Complete nozzles, please specify:*

1/ 4''	RRDC	1-23	BR	=	1/ 4RRDC1-23BR
Attacco *Pipe connection*	Tipo *Type*	Codice *Code*	Materiale* *Material**		Esempio *Example*

Solo dischetti e cores, specificare: - *For only discs and cores, please specify:*

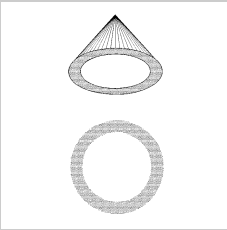
DC	1,2-25	NY	=	DC1,2-25NY
Tipo *Type*	Codice *Code*	Materiale* *Material**		Esempio *Example*

*** Vedi Pag. 3 - *See page 3 for list***

Dimensioni massimo ingombro *Maximum dimensions*

Attacco *Pipe connection*	Ugello tipo - *Nozzle type*			
	RDC		RRDC	
	A mm	B mm	A mm	B mm
1/ 8"	40	21 hex	40	21 hex
1/ 4"	40	21 hex	40	21 hex
3/ 8"	40	22 hex	40	21 hex
1/ 2"	40	25 hex	40	22 hex

Ugelli a cono vuoto con angolo molto ampio
Extra wide hollow cone spray nozzles



PA

CARATTERISTICHE DI SPRUZZO
Getto a cono vuoto, distribuzione uniforme, angolo molto ampio e proiezione ad angolo retto.

COSTRUZIONE
Ugelli in un solo pezzo con ampi passaggi sia in entrata che in uscita. L'assenza di diffusori interni elimina completamente il problema dell'intasamento. Tutti i tipi vengono ricavati da barra, i tipi da 3/ 8" e da 1/ 2" sono anche disponibili da fusione. Hanno attacchi femmina con filettatura standard Gas conica (BSPT - UNI 339). Altre filettature: NPT, Gas cilindrica (BSPP - UNI 338), ecc. vengono fornite su specifica richiesta.

MATERIALI STANDARD
Ottone, acciaio inox AISI 303, acciaio inox AISI 316 e PVC. Altri materiali sono forniti su specifica richiesta. (Vedi pag. 3)

APPLICAZIONI TIPICHE
Umidificazioni, lavaggio aria e gas, raffreddamento aria e gas, raffreddamento acqua, trattamento dei metalli, sgrassature, processi chimici, ecc.

SPRAY CHARACTERISTICS
This has a hollow cone uniform spray coverage pattern with the widest possible spray angle and a perpendicular projection with respect to the pipe connection.

CONSTRUCTION
It is a single piece nozzle with very large passages and no internal vanes in order to eliminate clogging problems completely. All the PA series are bar stock types but the 3/ 8" and 1/ 2" models are also available in cast types.
The entire PA series are Gas tapered (BSPT - UNI 339) and have exclusively standard female pipe connections. Different threadings: NPT, Gas parallel (BSPP - UNI 338), etc. are supplied upon specific request.

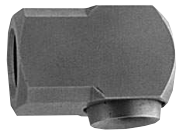
STANDARD MATERIALS
Brass, stainless steel AISI 303 stainless, steel AISI 316, PVC. Different product materials are obtainable upon specific request. (See page 3 for list)

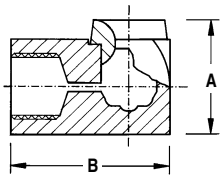
TYPICAL APPLICATIONS
Humidifying, air and gas washing, air and gas cooling, water cooling, metal surface treatment, product degreasing, chemical processes, etc.

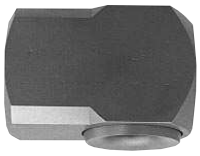
Tabella delle portate - *Capacity chart*

Ugello - *Nozzle*			Diametro Ingresso	Orifizio *Orifice*	Pressione - *Pressure (Bar)*													Angolo di spruzzo *Spray angle*		
Attacco femm. *Female connect.*	Tipo *Type*	Codice *Code*	Ø *Inlet mm*	Ø Nom. *mm*	0,2	0,5	0,7	1	1,5	2	2,5	3	4	5	6	7	10	0,5 Bar	1,5 Bar	6 Bar
					Portata - *Capacity (l/ min)*															
1/ 8"	PA	2	1,59	6,35	0,41	0,64	0,76	0,91	1,12	1,29	1,44	1,58	1,82	2,04	2,23	2,41	2,88	168°	165°	158°
		5	2,38	6,35	1,02	1,61	1,91	2,28	2,79	3,22	3,60	3,95	4,56	5,10	5,58	6,03	7,21	164°	154°	147°
1/ 4"	PA	2	1,59	6,35	0,41	0,64	0,76	0,91	1,12	1,29	1,44	1,58	1,82	2,04	2,23	2,41	2,88	168°	165°	158°
		5	2,38	6,35	1,02	1,61	1,91	2,28	2,79	3,22	3,60	3,95	4,56	5,10	5,58	6,03	7,21	164°	154°	147°
		6	2,78	6,35	1,22	1,93	2,29	2,73	3,35	3,87	4,32	4,74	5,47	6,12	6,70	7,24	8,65	164°	154°	147°
		8	3,18	7,94	1,63	2,58	3,05	3,65	4,47	5,16	5,77	6,32	7,29	8,15	8,93	9,65	11,53	164°	160°	151°
		10	3,57	7,94	2,04	3,22	3,81	4,56	5,58	6,45	7,21	7,90	9,12	10,19	11,17	12,06	14,41	164°	154°	147°
3/ 8"	PA	8	2,78	12,30	1,63	2,58	3,05	3,65	4,47	5,16	5,77	6,32	7,29	8,15	8,93	9,65	11,53	164°	160°	157°
		10	3,18	12,30	2,04	3,22	3,81	4,56	5,58	6,45	7,21	7,90	9,12	10,19	11,17	12,06	14,41	164°	160°	157°
		15	4,37	12,30	3,06	4,83	5,72	6,84	8,37	9,67	10,81	11,84	13,67	15,29	16,75	18,09	21,62	165°	163°	155°
		20	5,16	12,30	4,08	6,45	7,63	9,12	11,17	12,89	14,41	15,79	18,23	20,39	22,33	24,12	28,83	162°	152°	147°
		25	5,95	12,30	5,10	8,06	9,53	11,40	13,96	16,12	18,02	19,74	22,79	25,48	27,91	30,15	36,04	162°	158°	154°
		32	6,75	16,27	6,52	10,31	12,20	14,59	17,86	20,63	23,06	25,26	29,17	32,62	35,73	38,59	46,13	162°	154°	148°
		50	9,53	16,27	10,19	16,12	19,07	22,79	27,91	32,23	36,04	39,48	45,58	50,96	55,83	60,30	72,07	159°	152°	149°
1/ 2"	PA	25	5,56	16,27	5,10	8,06	9,53	11,40	13,96	16,12	18,02	19,74	22,79	25,48	27,91	30,15	36,04	162°	158°	154°
		30	6,35	16,27	6,12	9,67	11,44	13,67	16,75	19,34	21,62	23,69	27,35	30,58	33,50	36,18	43,24	163°	155°	148°
		40	7,54	16,27	8,15	12,89	15,25	18,23	22,33	25,79	28,83	31,58	36,47	40,77	44,66	48,24	57,66	160°	152°	144°
		50	9,53	16,27	10,19	16,12	19,07	22,79	27,91	32,23	36,04	39,48	45,58	50,96	55,83	60,30	72,07	159°	152°	149°

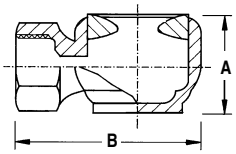
Tipi - *Types*







Tipi da barra - PA - ***Bar stock types***



Tipi da fusione - PA - ***Cast types***

Per ordinare - *To order*

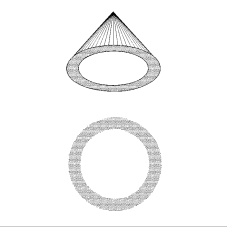
Specificare: - ***Specify:***

1/ 4"	PA	6	BR	=	1/ 4PA6BR
Attacco femmina *Pipe connection*	Tipo *Type*	Codice *Code*	Materiale* *Material**		Esempio *Example*

*** Vedi Pag. 3 -** ***See page 3 for list***

Dimensioni massimo ingombro *Maximum dimensions*

Attacco femmina *Female pipe connection*	Ugello tipo PA - *Nozzle type PA*			
	Tipi da barra *Bar stock types*		Ottone da fusione *Brass cast types*	
	A mm	B mm	A mm	B mm
1/ 8"	20	27		
1/ 4"	22	32		
3/ 8"	41	60	27	46
1/ 2"	41	60	32	56



Ugelli a cono vuoto getto deflesso e angolo ampio
Deflected cap design wide angle hollow cone spray nozzles
DEF

CARATTERISTICHE DI SPRUZZO
Getto a cono vuoto, angolo ampio, distribuzione uniforme su tutta la superfice coperta a tutte le pressioni.

COSTRUZIONE
Realizzati in tre pezzi: corpo esterno, stabilizzatore interno fisso che determina la portata ed una corretta turbolenza del liquido su cui è montata la testa di spruzzo rimovibile.
Gli angoli disponibili sono tre: 120°, 150° e 180°.
Tutti gli ugelli DEF hanno attacchi maschio con filettatura standard Gas conica (BSPT - UNI 339). Filettature diverse: NPT, Gas cilindrica (BSPP - UNI 338), ecc. vengono fornite su specifica richiesta.

MATERIALI STANDARD
Ottone, acciaio inox AISI 303, acciaio inox AISI 316 e PVC. Materiali diversi vengono forniti a richiesta. (Vedi pag. 3)

APPLICAZIONI TIPICHE
Lavaggio e raffreddamento di particolari vicini tra loro che avanzano in parallelo.

SPRAY CHARACTERISTICS
It has a wide angle hollow cone spray pattern with a good coverage uniformity over the entire ring-like surface at all pressures.

CONSTRUCTION
It is a three-piece model composed of an external body, removable tip and its internal spindle-like holder which also serves to provide the proper flow-rate as well as to create the correct internal liquid turbulence.
The three unique spray angles are 120°, 150° and 180°.
All the DEF series have standard Gas tapered (BSPT - UNI 339) threadings and are exclusively male threaded. Different threadings: NPT, Gas parallel (BSPP - UNI 338), etc. are supplied upon specific request.

STANDARD MATERIALS
Brass, stainless steel AISI 303, stainless steel AISI 316, PVC. Different product materials are obtainable under special request. (See page 3 for list)

TYPICAL APPLICATIONS
Washing and cooling of close panels in parallel movement, etc.

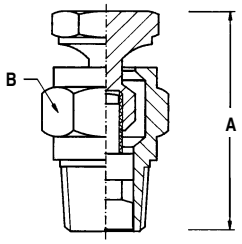
Tabella delle portate - *Capacity chart*

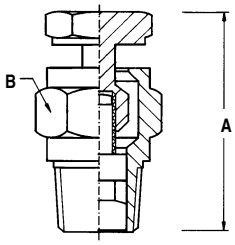
Ugello - *Nozzle*			Pressione - *Pressure (Bar)*												
Attacco maschio *Male pipe connection*	Tipo *Type*	Codice *Code*	0,3	0,5	0,7	1	1,5	2	2,5	3	4	5	6	7	10
			Portata - *Capacity (l/ min)*												
1/ 8"	DEF	0,37	0,94	1,21	1,43	1,71	2,09	2,42	2,70	2,96	3,42	3,82	4,19	4,52	5,41
		0,5	1,25	1,61	1,91	2,28	2,79	3,22	3,60	3,95	4,56	5,10	5,58	6,03	7,21
		0,75	1,87	2,42	2,86	3,42	4,19	4,83	5,41	5,92	6,84	7,64	8,37	9,05	10,81
1/ 4"	DEF	1	2,50	3,22	3,81	4,56	5,58	6,45	7,21	7,90	9,12	10,19	11,17	12,06	14,41
		1,5	3,74	4,83	5,72	6,84	8,37	9,67	10,81	11,84	13,67	15,29	16,75	18,09	21,62
		2	4,99	6,45	7,63	9,12	11,17	12,89	14,41	15,79	18,23	20,39	22,33	24,12	28,83
		2,5	6,24	8,06	9,53	11,40	13,96	16,12	18,02	19,74	22,79	25,48	27,91	30,15	36,04
3/ 8"	DEF	3	7,49	9,67	11,44	13,67	16,75	19,34	21,62	23,69	27,35	30,58	33,50	36,18	43,24
		3,5	8,74	11,28	13,35	15,95	19,54	22,56	25,23	27,63	31,91	35,67	39,08	42,21	50,45
		4	9,99	12,89	15,25	18,23	22,33	25,79	28,83	31,58	36,47	40,77	44,66	48,24	57,66
		4,5	11,23	14,50	17,16	20,51	25,12	29,01	32,43	35,53	41,02	45,87	50,24	54,27	64,87
		5	12,48	16,12	19,07	22,79	27,91	32,23	36,04	39,48	45,58	50,96	55,83	60,30	72,07

Tipi - *Types*

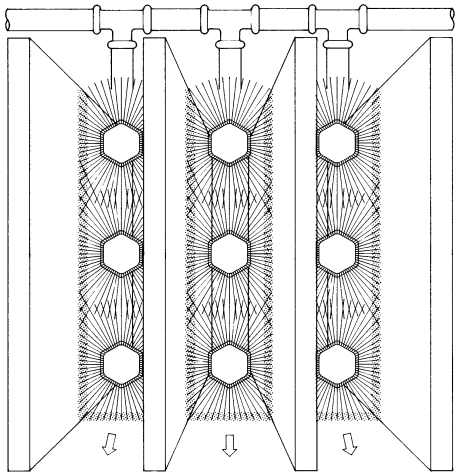
Tipo - DEF *120°/ 150° - Type*

Tipo - DEF *180° - Type*





Lavaggio pannelli in movimento parallelo
Washing panels in parallel movement



Per ordinare, specificare: - *To order, specify:*

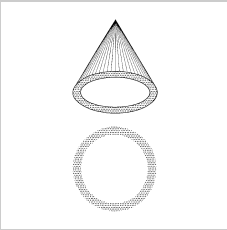
1/ 4''	DEF	150°	2,5	BR	=	1/ 4DEF1502,5BR
Attacco maschio *Pipe connection*	Tipo *Type*	Angolo *Angle*	Codice *Code*	Materiale* *Material**		Esempio *Example*

*** Vedi Pag. 3 - *See page 3 for list***

Dimensioni massimo ingombro
Maximum dimensions

Attacco maschio *Male pipe connection*	Ugello tipo DEF *Nozzle type DEF*	
	A mm	B mm
1/ 8"	30	13 hex
1/ 4"	33	17 hex
3/ 8"	44	22 hex

Ugelli a cono vuoto fuori asse
Offset hollow cone spray nozzles



S

CARATTERISTICHE DI SPRUZZO
Getto a cono vuoto con distribuzione uniforme su tutta la superfice e fine nebulizzazione a tutte le pressioni. Il getto è spostato lateralmente rispetto all'entrata.

COSTRUZIONE
Realizzato in tre pezzi con testina di spruzzo intercambiabile, senza diffusori interni e con accesso laterale per facilitare le eventuali operazioni di pulizia. Questi ugelli possono montare delle testine ad angolo ampio che hanno le stesse caratteristiche di quelle per il tipo CW. (Vedi pag. 40-41)
Costruiti con attacchi maschio e filettatura Gas conica (BSPT - UNI 339). Filettature diverse: NPT, Gas cilindrica (BSPP - UNI 338), ecc. sono fornite su specifica richiesta.

MATERIALI STANDARD
Ottone, acciaio inox AISI 303, acciaio inox AISI 316 e PVC. Altri materiali sono forniti a richiesta. (Vedi pag. 3)

APPLICAZIONI TIPICHE
Tutte le applicazioni degli ugelli a cono vuoto e in tutti i casi in cui necessita una proiezione del getto in parallelo all'ingresso del liquido.

SPRAY CHARACTERISTICS
This produces a hollow cone uniform distribution spray pattern and a good atomizing effect at all pressures. The hollow cone axis is laterally shifted from that of the inlet.

CONSTRUCTION
It is a three-piece unit with no internal vanes. It has interchangeable tips and a lateral opening possibility for eventual cleaning of the nozzle.
This nozzle type allows even the wide angle spray tips to be mounted. (See page 40-41 for CW nozzle type flow rate and its technical characteristics.)
All the S models have only a male standard Gas tapered (BSPT - UNI 339) threading. Different threadings: NPT, Gas parallel (BSPP - UNI 338), etc. are supplied under specific request.

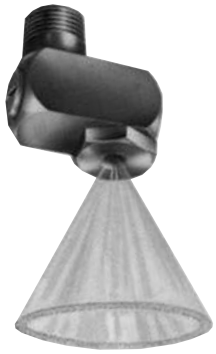
STANDARD MATERIALS
Brass, stainless steel AISI 303, stainless steel AISI 316, PVC. Different product materials are available upon special request (See page 3 for list)

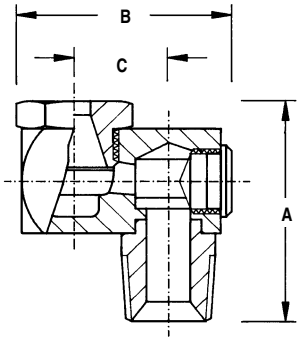
TYPICAL APPLICATIONS
All cases in which it is necessary to have the hollow cone liquid projection and the inlet axis in parallel line.

Tabella delle portate - *Capacity chart*

Ugello - *Nozzle*			Diametro Ingresso	Orifizio *Orifice*	Pressione - *Pressure* (Bar)													Angolo di spruzzo Spray angle		
Att. maschio *Male conn.*	Tipo *Type*	Codice *Code*	Ø *Inlet mm*	Ø Nom. *mm*	0,2	0,5	0,7	1	1,5	2	2,5	3	4	5	6	7	10	0,5 Bar	1,5 Bar	6 Bar
					Portata - *Capacity (l/ min)*															
3/ 8"	S	3	2,38	2,38	0,61	0,97	1,14	1,37	1,67	1,93	2,16	2,37	2,73	3,06	3,35	3,62	4,32	52°	64°	77°
		5	3,57	3,18	1,02	1,61	1,91	2,28	2,79	3,22	3,60	3,95	4,56	5,10	5,58	6,03	7,21	64°	73°	79°
		8	4,76	3,97	1,63	2,58	3,05	3,65	4,47	5,16	5,77	6,32	7,29	8,15	8,93	9,65	11,53	62°	70°	74°
		10	5,16	4,37	2,04	3,22	3,81	4,56	5,58	6,45	7,21	7,90	9,12	10,19	11,17	12,06	14,41	64°	72°	75°
		15	6,35	5,56	3,06	4,83	5,72	6,84	8,37	9,67	10,81	11,84	13,67	15,29	16,75	18,09	21,62	64°	72°	74°
		20	7,14	6,35	4,08	6,45	7,63	9,12	11,17	12,89	14,41	15,79	18,23	20,39	22,33	24,12	28,83	63°	70°	74°
		25	7,54	7,54	5,10	8,06	9,53	11,40	13,96	16,12	18,02	19,74	22,79	25,48	27,91	30,15	36,04	63°	70°	74°
1/ 2"	S	25	9,53	6,35	5,10	8,06	9,53	11,40	13,96	16,12	18,02	19,74	22,79	25,48	27,91	30,15	36,04	63°	66°	71°
		30	9,53	7,54	6,12	9,67	11,44	13,67	16,75	19,34	21,62	23,69	27,35	30,58	33,50	36,18	43,24	67°	71°	75°
		40	9,53	9,13	8,15	12,89	15,25	18,23	22,33	25,79	28,83	31,58	36,47	40,77	44,66	48,24	57,66	72°	76°	78°
		50	9,53	11,11	10,19	16,12	19,07	22,79	27,91	32,23	36,04	39,48	45,58	50,96	55,83	60,30	72,07	74°	79°	82°
		60	9,53	13,10	12,23	19,34	22,88	27,35	33,50	38,68	43,24	47,37	54,70	61,16	66,99	72,36	86,49	77°	82°	86°

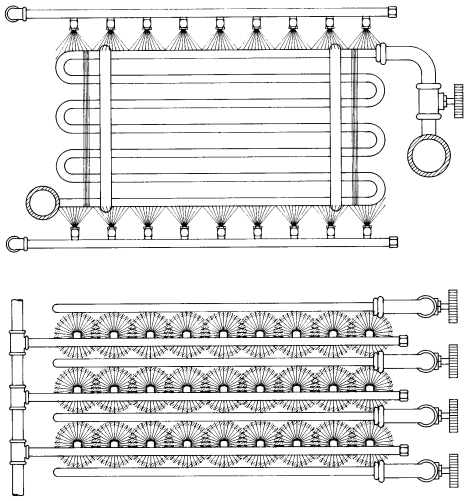
Tipo - *Type*





S

Raffreddamento condensatori
Cooling coil condensers



Per ordinare - *To order*

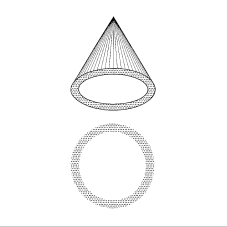
Specificare: - *Specify:*

1/ 2"	S	50	SS316	=	1/ 2S50SS316
Attacco maschio *Pipe connection*	Tipo *Type*	Codice *Code*	Materiale* *Material**		Esempio *Example*

*** Vedi Pag. 3 - *See page 3 for list***

Dimensioni massimo ingombro
Maximum dimensions

Attacco maschio *Male pipe connection*	Ugello tipo S *Nozzle type S*		
	A mm	B mm	C mm
3/ 8"	40	39	16,5
1/ 2"	51	58	25,5



Ugelli a cono vuoto assiali
In-line hollow cone spray nozzles

T

CARATTERISTICHE DI SPRUZZO
Getto a cono vuoto finemente nebulizzato in asse rispetto all'entrata. Distribuzione uniforme su tutta la superficie coperta.

COSTRUZIONE
Composti da due pezzi con testina di spruzzo rimovibile e intercambiabile anche con le testine ad angolo ampio, in questo caso hanno le stesse caratteristiche tecniche del tipo CW. (Vedi pag. 40-41) L'assenza di diffusori interni garantisce il perfetto funzionamento anche con liquidi non perfettamente puliti o contenenti sostanze in sospensione. Tutti gli ugelli tipo T hanno attacchi maschio con filettatura Gas conica (BSPT - UNI 339). Filettature diverse: NPT, Gas cilindrica (BSPP - UNI 338), ecc. vengono fornite su specifica richiesta.

MATERIALI STANDARD
Ottone, acciaio inox AISI 303, acciaio inox AISI 316 e PVC. Materiali diversi vengono forniti a richiesta. (Vedi pag. 3)

APPLICAZIONI TIPICHE
Lavaggio aria e gas, raffreddamento billette nelle colate continue, umidificazioni, controllo polveri, ecc.

SPRAY CHARACTERISTICS
This produces a hollow cone in-line spray projection with respect to the coupling or the tee, a good atomizing effect and distribution uniformity over the entire ring-like surface area.

CONSTRUCTION
It is a two-piece unit with removable tips. The tips of the same body-size are interchangeable with one another, as well as with the wide angle spray tips. (See page 40-41 for CW nozzle type flow rate and its technical characteristics.)
For not having any internal vane, it functions perfectly even with fluids containing foreign particles.
All the T series have only a male standard Gas tapered (BSPT - UNI 339) threading. Different threadings: NPT, Gas parallel (BSPP - UNI 338), etc. are supplied under special request.

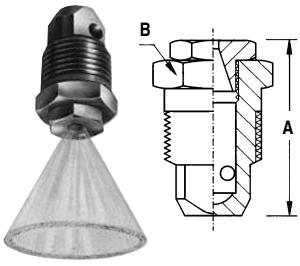
STANDARD MATERIALS
Brass, stainless steel AISI 303, stainless steel AISI 316, PVC. Different product materials are obtainable under specific request. (See page 3 for list)

TYPICAL APPLICATIONS
Air and gas washing, billet cooling in continuous casting, humidifying, dust control, etc.

Tabella delle portate - *Capacity chart*

Ugello - *Nozzle*			Diametro Ingresso	Orifizio *Orifice*	Pressione - *Pressure (Bar)*													Angolo di spruzzo *Spray angle*		
Att. maschio *Male conn.*	Tipo *Type*	Codice *Code*	Ø *Inlet mm*	Ø Nom. *mm*	0,2	0,5	0,7	1	1,5	2	2,5	3	4	5	6	7	8	0,5 Bar	1,5 Bar	6 Bar
					Portata - *Capacity (l/ min)*															
3/ 8"	T	2	2,38	1,98	0,41	0,64	0,76	0,91	1,12	1,29	1,44	1,58	1,82	2,04	2,23	2,41	2,58	51°	60°	70°
		3	2,38	2,38	0,61	0,97	1,14	1,37	1,67	1,93	2,16	2,37	2,73	3,06	3,35	3,62	3,87	62°	64°	77°
		5	2,78	3,18	1,02	1,61	1,91	2,28	2,79	3,22	3,60	3,95	4,56	5,10	5,58	6,03	6,45	56°	67°	76°
		8	3,97	3,97	1,63	2,58	3,05	3,65	4,47	5,16	5,77	6,32	7,29	8,15	8,93	9,65	10,31	56°	65°	70°
		10	3,97	4,37	2,04	3,22	3,81	4,56	5,58	6,45	7,21	7,90	9,12	10,19	11,17	12,06	12,89	55°	65°	72°
		20 - 10	* 3,97	4,37	2,85	4,51	5,34	6,38	7,82	9,02	10,09	11,05	12,76	14,27	15,63	16,88	18,05	61°	65°	67°
1/ 2"	T	5	3,18	3,57	1,02	1,61	1,91	2,28	2,79	3,22	3,60	3,95	4,56	5,10	5,58	6,03	6,45	63°	73°	79°
		8	3,97	3,97	1,63	2,58	3,05	3,65	4,47	5,16	5,77	6,32	7,29	8,15	8,93	9,65	10,31	61°	69°	73°
		10	4,37	4,37	2,04	3,22	3,81	4,56	5,58	6,45	7,21	7,90	9,12	10,19	11,17	12,06	12,89	63°	70°	74°
		15	* 4,37	5,16	3,06	4,83	5,72	6,84	8,37	9,67	10,81	11,84	13,67	15,29	16,75	18,09	19,34	60°	67°	70°
		20	* 4,76	5,95	4,08	6,45	7,63	9,12	11,17	12,89	14,41	15,79	18,23	20,39	22,33	24,12	25,79	63°	65°	69°
		25	* 5,16	7,14	5,10	8,06	9,53	11,40	13,96	16,12	18,02	19,74	22,79	25,48	27,91	30,15	32,23	59°	63°	68°
3/ 4"	T	5	3,57	3,18	1,02	1,61	1,91	2,28	2,79	3,22	3,60	3,95	4,56	5,10	5,58	6,03	6,45	64°	73°	79°
		8	4,37	3,97	1,63	2,58	3,05	3,65	4,47	5,16	5,77	6,32	7,29	8,15	8,93	9,65	10,31	62°	70°	74°
		10	5,16	4,37	2,04	3,22	3,81	4,56	5,58	6,45	7,21	7,90	9,12	10,19	11,17	12,06	12,89	64°	72°	75°
		15	6,35	5,56	3,06	4,83	5,72	6,84	8,37	9,67	10,81	11,84	13,67	15,29	16,75	18,09	19,34	64°	72°	74°
		20	7,14	6,35	4,08	6,45	7,63	9,12	11,17	12,89	14,41	15,79	18,23	20,39	22,33	24,12	25,79	63°	70°	74°
		25	7,14	7,54	5,10	8,06	9,53	11,40	13,96	16,12	18,02	19,74	22,79	25,48	27,91	30,15	32,23	63°	70°	74°
		50 - 50,3	* 7,14	9,53	10,19	16,12	19,07	22,79	27,91	32,23	36,04	39,48	45,58	50,96	55,83	60,30	64,46	70°	72°	73°
1 1/ 2"	T	40	* 9,53	7,94	8,15	12,89	15,25	18,23	22,33	25,79	28,83	31,58	36,47	40,77	44,66	48,24	51,57	70°	73°	74°
		50	* 9,53	9,53	10,19	16,12	19,07	22,79	27,91	32,23	36,04	39,48	45,58	50,96	55,83	60,30	64,46	72°	75°	77°
		60	* 9,53	11,11	12,23	19,34	22,88	27,35	33,50	38,68	43,24	47,37	54,70	61,16	66,99	72,36	77,36	74°	76°	79°
		70	* 9,53	12,70	14,27	22,56	26,70	31,91	39,08	45,12	50,45	55,27	63,82	71,35	78,16	84,42	90,25	76°	79°	83°
		80	* 9,53	14,29	16,31	25,79	30,51	36,47	44,66	51,57	57,66	63,16	72,93	81,54	89,32	96,48	103,14	78°	82°	84°
		90	* 9,53	14,68	18,35	29,01	34,32	41,02	50,24	58,02	64,87	71,06	82,05	91,73	100,49	108,54	116,03	81°	84°	84°
		100	* 9,53	15,88	20,39	32,23	38,14	45,58	55,83	64,46	72,07	78,95	91,17	101,93	111,65	120,60	128,93	83°	86°	86°
		110	* 9,53	17,07	22,42	35,45	41,95	50,14	61,41	70,91	79,28	86,85	100,28	112,12	122,82	132,66	141,82	85°	88°	88°
		120	* 9,53	18,26	24,46	38,68	45,76	54,70	66,99	77,36	86,49	94,74	109,40	122,31	133,98	144,72	154,71	87°	90°	90°

*** Doppio ingresso - *Dual inlet***



T

Per ordinare - *To order*

Specificare: - *Specify:*

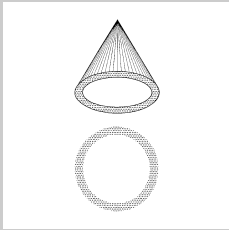
3/ 8"	T	5	BR	=	3/ 8T5BR
Attacco maschio *Pipe connection*	Tipo *Type*	Codice *Code*	Materiale* *Material**		Esempio *Example*

*** Vedi Pag. 3 - *See page 3 for list***

Dimensioni massimo ingombro *Maximum dimensions*

Attacco maschio *Male pipe connection*	Ugello tipo T *Nozzle type T*	
	A mm	B mm
3/ 8"	31	18 hex
1/ 2"	37	22 hex
3/ 4"	44	27 hex
1 1/ 2"	67	48 hex

Ugelli a cono vuoto a spirale
Spiral hollow cone spray nozzles



CCS

CARATTERISTICHE DI SPRUZZO
Getto a cono vuoto, buona nebulizzazione a tutte le pressioni e portate superiori rispetto agli altri ugelli con uguale attacco.

COSTRUZIONE
Realizzati in un solo pezzo con la parte finale a spirale. L'assenza di diffusori interni e i passaggi molto grandi eliminano completamente qualsiasi problema d'intasamento. Tutti gli ugelli CCS hanno attacchi maschio e filettatura standard Gas conica (BSPT - UNI 339). In alternativa possono essere forniti con filettatura NPT su specifica richiesta.

ANGOLI STANDARD
Angoli base per tutti gli ugelli CCS sono: 60°, 90° e 120°.
Gli ugelli con codice compreso tra 7 e 210 possono essere forniti con angolo da 50°, quelli con codice compreso tra 13 e 1780 possono essere forniti con un angolo di 180°, oltre agli angoli base.

MATERIALI STANDARD
Ottone, acciaio inox AISI 316, teflon e PVC.

APPLICAZIONI TIPICHE
Raffreddamento per evaporazione, abbattimento polveri, raffreddamento aria e gas, Cannoni per l'innevamento artificiale, processi chimici, ecc.

SPRAY CHARACTERISTICS
This has a hollow cone spray pattern and a good atomizing effect at all pressures as well as with a larger flow capacity than all the other hollow cone spray nozzles having the same pipe connection size.

CONSTRUCTION
It is a single-piece spiral-shaped unit with a pointed end. With large passages and no internal parts, it has a high discharge velocity without any clogging problems. All the CCS series have only a male standard Gas tapered (BSPT - UNI 339) threading. The alternative NPT threading is supplied under special request.

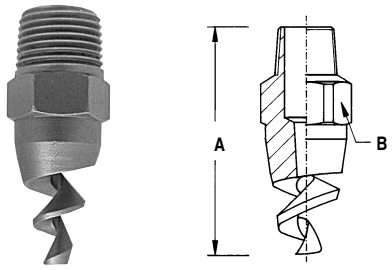
SPRAY ANGLES
Basic standard spray angles for all the CCS series are 60°, 90° an d 120°. Only the models with the code numbers ranging from 7 to 210 can also provide a 50° spray angle, while those from 13 to 1780 code-number range can offer an additional 180° apart from the basic spray angles.

STANDARD MATERIALS
Brass, stainless steel AISI 316, teflon, PVC.

TYPICAL APPLICATIONS
Evaporative cooling, dust control, air and gas cooling, fire protection, air and gas washing, on artificial snow-spraying machines, chemical processes, etc.

Tabella delle portate - *Capacity chart*

Ugello - *Nozzle*			Orifizio	Pass libero	Pressione - *Pressure (Bar)*														
Attacco maschio *Male connection*	Tipo *Type*	Codice *Code*	*Orifice* Ø Nom. mm	*Free passage* Ø mm	0,5	0,7	1	1,5	2	2,5	3	4	5	7	10	15	20	25	30
					Portata - *Capacity (l/ min)*														
1/ 4"	CCS	7	2,38	2,38	2,25	2,67	3,19	3,90	4,51	5,04	5,52	6,37	7,12	8,43	10,08	12,34	14,25	15,93	17,45
		13	3,18	3,18	4,18	4,95	5,92	7,25	8,37	9,36	10,25	11,83	13,23	15,66	18,71	22,92	26,46	29,59	32,41
		20	3,97	3,18	6,44	7,62	9,10	11,15	12,87	14,39	15,77	18,21	20,36	24,09	28,79	35,26	40,71	45,52	49,86
3/ 8"	CCS	30	4,76	3,18	9,66	11,42	13,66	16,72	19,31	21,59	23,65	27,31	30,53	36,13	43,18	52,89	61,07	68,28	74,79
		40	5,56	3,18	12,87	15,23	18,21	22,30	25,75	28,79	31,54	36,41	40,71	48,17	57,58	70,52	81,43	91,04	99,73
		53	6,35	3,18	17,06	20,18	24,12	29,55	34,12	38,14	41,78	48,25	53,94	63,83	76,29	93,43	107,9	120,6	132,1
		82	7,94	3,18	26,39	31,23	37,32	45,71	52,79	59,02	64,65	74,65	83,46	98,75	118,0	144,6	166,9	186,6	204,4
1/ 2"	CCS	120	9,53	4,76	38,62	45,70	54,62	66,90	77,25	86,36	94,61	109,2	122,1	144,5	172,7	211,5	244,3	273,1	299,2
		164	11,11	4,76	52,79	62,46	74,65	91,43	105,6	118,0	129,3	149,3	166,9	197,5	236,1	289,1	333,8	373,2	408,9
3/ 4"	CCS	210	12,70	4,76	67,59	79,97	95,59	117,1	135,2	151,1	165,6	191,2	213,7	252,9	302,3	370,2	427,5	477,9	523,6
1"	CCS	340	15,88	6,35	109,4	129,5	154,8	189,5	218,9	244,7	268,1	309,5	346,1	409,5	489,4	599,4	692,1	773,8	847,7
		470	19,05	6,35	151,3	179,0	213,9	262,0	302,5	338,3	370,5	427,9	478,4	566,0	676,5	828,6	956,7	1.070	1.172
1 1/ 2"	CCS	640	22,23	7,94	206,0	243,7	291,3	356,8	412,0	460,6	504,6	582,6	651,4	770,7	921,2	1.128	1.303	1.457	1.596
		820	25,40	7,94	263,9	312,3	373,2	457,1	527,9	590,2	646,5	746,5	834,6	987,5	1.180	1.446	1.669	1.866	2.044
		960	28,58	7,94	309,0	365,6	437,0	535,2	618,0	690,9	756,9	873,9	977,1	1.156	1.382	1.692	1.954	2.185	2.393
2"	CCS	1400	34,93	11,11	450,6	533,2	637,3	780,5	901,2	1.008	1.104	1.275	1.425	1.686	2.015	2.468	2.850	3.186	3.490
		1780	38,10	11,11	572,9	677,9	810,2	992,3	1.146	1.281	1.403	1.620	1.812	2.144	2.562	3.138	3.623	4.051	4.438
3"	CCS	2560	44,45	14,29	824,0	974,9	1.165	1.427	1.648	1.842	2.018	2.331	2.606	3.083	3.685	4.513	5.211	5.826	6.382
		3360	50,80	14,29	1.081	1.280	1.529	1.873	2.163	2.418	2.649	3.059	3.420	4.046	4.836	5.923	6.840	7.647	8.377
4"	CCS	5250	63,50	15,88	1.690	1.999	2.390	2.927	3.380	3.778	4.139	4.779	5.344	6.323	7.557	9.255	10.687	11.948	13.089



CCS

Costruzione speciale
Specially made nozzle

Per ordinare, specificare: - *To order, specify:*

1/ 2''	CCS	120°	120	BR	=	1/ 2CCS120120BR
Attacco maschio *Pipe connection*	Tipo *Type*	Angolo *Angle*	Codice *Code*	Materiale* *Material**		Esempio *Example*

*** Vedi Pag. 3 - *See page 3 for list***

Max ingombro - *Max dimensions*

Attacco maschio *Male pipe connection*	Ugello tipo CCS *Nozzle type CCS*	
	A mm	B mm
1/ 4"	48	14 hex
3/ 8"	48	17 hex
1/ 2"	64	22 hex
3/ 4"	70	27 hex
1"	93	33 hex
1 1/ 2"	112	50 hex
2"	150	60 hex
3"	205	90 dia
4"	230	115 dia