



PIPING SYSTEM MATERIAL (PSM)
DIN STANDARD

STANDARD N° 2.4.302

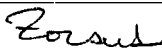
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05	10/97	General revision																			
												Zorzut DTN			Barbante DE			Pelizzo UQE			
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04	06/97	General revision																			
												Zorzut DTN			Barbante DE			Pelizzo QE			
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03	05/97	General revision; ins. intersec. table in N 2.4.303; changed class D16JT in D16JZ																			
												Zorzut DTN			Barbante DE			Dalla Franc. UGQ			
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Rev.	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3				
REV.	DATA DATE	DESCRIZIONE MODIFICA DESCRIPTION OF MODIFICATION										REDATTO COMPILED			CONTROLLATO CHECKED			APPROVATO APPROVED			



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1 - ELENCO CLASSI TUBAZIONI

La presente Norma definisce l'elenco codificato delle classi tubazioni secondo Norme Danieli secondo Std UNI, DIN, ANSI, ASME, ASTM, API, BS, MSS-SP, SAE, CETOP, seguendo come rating base la normativa DIN/UNI.

Per ogni classe sono definiti i parametri principali relativi alla linea, ai fluidi di impiego, alle condizioni di progetto, alla pericolosità del fluido, ai controlli NDT ed al tipo di riscaldamento/coibentazione della stessa.

Le condizioni di progetto di linea ed i controlli non distruttivi (NDT) sono da considerarsi puramente indicativi, e dovranno essere di volta in volta verificati in accordo alle reali condizioni di esercizio di ogni singolo fluido relativamente alla Commessa.

Ogni componente la Classe tubazione è dettagliatamente specificato nei relativi data sheets di cui al punto 2 (Classi tubazioni).

Per chiave di lettura siglatura PSM vedere N 2.4.300.

Per tabella intersezioni vedere N 2.4.303

1 - PIPING CLASSES LIST

This Standard defines the codified list of Danieli piping classes according to UNI, DIN, ANSI, ASME, ASTM, API, BS, MSS-SP, SAE, CETOP codes, taking into account the DIN/UNI Standards as base rating.

For each piping class this Standard defines the main parameters concerning line characteristics, design condition, fluids conditions, fluid hazard degree, NDT controls, type of heating and insulating of line.

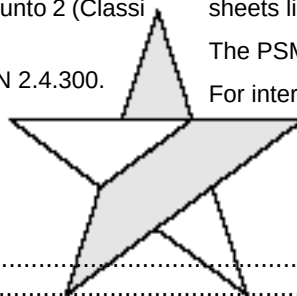
The design conditions and non destructive test (NDT) of line are to be considered as tentative only and shall be verified for each specific job according to the real operating conditions of the fluid used.

Each component of Piping Class is specified in the data sheets listed at point 2 (Piping classes).

The PSM reading key code is explained in N 2.4.300.

For intersection tables see N 2.4.303

PIPING CLASS	FLUIDS INDEX	PAGE
D 16 AC	AZ.....	3
D 16 ES	AR, FW, IA, NI, PW.....	3
D 16 FS	GN, LPG.....	3
D 25 FS	GN, LPG.....	4
D 16 HL	DO, FO, HO.....	4
D 16 HM	LO, LOR.....	4
D 16 JS	AB, AC, ACR, CW, CWR, EW, FW, GL, HZ, HZR, KW, KWR, IW, MW, NW, QW, QWR, SL, PW,.....	5-6
D 25 JS	CW, CWR, KW MW.....	6
D 16 JV	SL.....	6
D 16 JZ	KWR.....	7
D 16 PF	HS.....	7
D 16 PR	LCS, LST.....	7
D 25 PR	MCS, MST.....	7
D 16 PS	AR, CA, IA, NI, PA,.....	8
D 25 PS	AR, CA, NI.....	8
D 40 PS	AR, NI.....	8
D 16 UE	CA, IA, PW.....	9
D 16 UF	GN, LPG.....	9
D 25 UF	GN, LPG.....	9
D 16 US	CW, CWR, FW, MW, NW, PW.....	10
D 25 XS	OX.....	10
D 40 XS	OX.....	10
D 400 XT	GR.....	11
D 16 YT	HD, HT, HFS.....	11
D 210 YT	HP.....	11
D 400 YT	HP.....	12
L 10 CH	AF, AK, BE, BK, BS, DB, DC, DD, DI, DS, DW, DZ, FM, GY, HCB, HS, NA, NH, NS, PM, PS, RA, RS, RW, SB, SE, SH, SS, SW.....	12-13
L 10 UH	AB, FK.....	14
S 16 CH	AK, NA, MW, PM.....	14
S 25 CH	AK, DI, MW, PM.....	14
S 16 PS	DW, KW, LOD, LO, LOR, NS, SW,.....	15
S 25 PS	DW, KW, NS, QW, QWR, SW.....	15
S 25 XS	OX.....	16
S 40 XS	OX.....	16
S 16 YT	HD, HT, HFS, LO.....	16
S 210 YT	HP.....	17
S 400 YT	HP.....	17



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04	06/97	Ins. fluid CA in D16UE, CW and CWR in D16US
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Piping Class	Line					Fluid		Design conditions		Hazard degree			NDT class N 2.8.114	Line heating		Remarks
	DN/NPS Range	Rating Class Facing	Pipe Material	Valve Trim Material	Corr. allow. mm	Fluid item	Fluid specification	barg	°C	Toxic	Explos.	Flamm.		Heat. type	Insul. type	
D 16AC	15÷150	PN16RF	C Steel	13%Cr AISI 304	0,75	AZ	Acetilene Acetylene	14	65		X	X				
	15÷40					DR	Dreni Drains	Atm.	65		X	X				
						VT	Sfiati Vents	Atm.	65		X	X				
D 16ES	15÷100	PN16RF	C Steel Galvan.	13%Cr AISI 304	0,00	AR	Argon Argon	14	65							
						FW	Acqua antincendio Fire-fighting water	14	65							Empty line (sprinklers)
						IA	Aria per strumenti Instrument air	10	65							
						NI	Azoto Nitrogen	14	65							
						PW	Acqua potabile Drinking water	10	65							
	15÷40					DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							
D 16FS	15÷400	PN16RF	C Steel	13% Cr AISI 304	1,50	GN	Gas naturale Natural gas	14	65		X	X		ET	HC	
				Viton		LPG	Gas propano liquido Liquid propane gas	14	65		X	X		ET	HC	
	15÷40					DR	Dreni Drains	Atm.	65		X	X				
						VT	Sfiati Vents	Atm.	65		X	x				



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Piping Class	Line					Fluid		Design conditions		Hazard degree			NDT class N 2.8.114	Line heating		Remarks
	DN/NPS Range	Rating Class Facing	Pipe Material	Valve Trim Material	Corr. allow. mm	Fluid item	Fluid specification	barg	°C	Toxic	Explos.	Flamm.		Heat. type	Insul. type	
D 25FS	15÷400	PN25RF	C Steel	13% Cr AISI 304	1,50	GN	Gas naturale Natural gas	21	65		X	X		ET	HC	
				Inconel		LPG	Gas propano liquido Liquid propane gas	21	65		X	X		ET	HC	
	15÷40					DR	Dreni Drains	Atm.	65		X	X				
						VT	Sfiati Vents	Atm.	65		X	x				
D 16HL	15÷300	PN16RF	C Steel	13% Cr AISI 304	0,75	DO	Olio Diesel Diesel oil	12	65	X	X	X				
						FO	Olio combustibile Fuel oil	12	65	X	X	X				
						HO	Olio esausto Waste oil	12	65	X	X	X				
	15÷40					DR	Dreni Drains	Atm.	65	X	X	X				
						VT	Sfiati Vents	Atm.	65	X	X	X				
D 16HM	15÷400	PN 16RF	C Steel	13% Cr AISI 304	0,75	LO	Olio di lubrificazione (Mandata) Lube oil (Delivery)	12,5	80			X				
				NBR		LOR	Olio di lubrificazione (Ritorno) Lube oil (Return)	12,5	80			X				
	15÷40					DR	Dreni Drains	Atm.	65			X				
						VT	Sfiati Vents	Atm.	65			X				



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Piping Class	Line					Fluid		Design conditions		Hazard degree			NDT class N 2.8.114	Line heating		Remarks
	DN/NPS Range	Rating Class Facing	Pipe Material	Valve Trim Material	Corr. allow. mm	Fluid item	Fluid specification	barg	°C	Toxic	Explos.	Flamm.		Heat. type	Insul. type	
D 16JS	15÷1200	PN16RF	C Steel	13% Cr AISI 304	0,75	AB	Acqua industriale di scarico Industrial sewage	12	65							
				NBR		AC	Acqua raffredd. impianti HVAC (entrata) HVAC systems cooling water (inlet)	12	65							Circuiti chiusi Close rings
						ACR	Acqua raffredd. impianti HVAC (uscita) HVAC systems cooling water (outlet)	12	65							
						CW	Acqua raffr. indir. circ. aperti (mandata) Indir. cool. water open circuit (delivery)	12	65							
						CWR	Acqua raffr. indir. circuiti aperti (ritorno) Indir. cool. water open circuit (return)	12	65							
						EW	Acqua di emergenza Emergency water	12	65							
						FW	Acqua antincendio Fire-fighting water	12	65							Pieno d'acqua Full of water
						GL	Aria soffiante Blowing air	6	130						PP	
						HZ	Acqua termostata (entrata) Thermostatized water (inlet)	12	90						HC	Circuiti chiusi Close ring
						HZR	Acqua termostata (uscita) Thermostatized water (outlet)	12	90						HC	
						KW	Acqua raffr. diretto circ. aperti (mandata) Direct cool. water open circuit (delivery)	12	65							
						KWR	Acqua raffr. diretto circuiti aperti (ritorno) Direct cooling water open circuit (return)	12	65							Open rings Scale ≤ 400 ppm
						IW	Acqua grezza di reintegro Raw water (Make-up)	12	65							
						MW	Acqua filtrata di reintegro Filtered water (Make-up)	12	65							
						NW	Acqua uso industriale Industrial water	12	65							
						QW	Acqua raff. ind. circuiti chiusi (mandata) Ind. cool. water closed circuit (delivery)	12	65							
						QWR	Acqua raffr. ind. circuiti chiusi (ritorno) Ind. cool. water closed circuit (return)	12	65							
						SL	Acqua con fanghi Sludge water	12	65							



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Piping Class	Line					Fluid		Design conditions		Hazard degree			NDT class N 2.8.114	Line heating		Remarks
	DN/NPS Range	Rating Class Facing	Pipe Material	Valve Trim Material	Corr. allow. mm	Fluid item	Fluid specification	barg	°C	Toxic	Explos.	Flamm.		Heat. type	Insul. type	
D 16JS	≥ 150	PN16RF	C Steel	13% Cr AISI 304	0,75	PW	Acqua potabile Drinking water	10	65							
	15÷40			NBR		DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							
D 25JS	15÷300	PN25RF	C Steel	13% Cr AISI 304	1,00	CW	Acqua raffr. indir. circ. aperti (mandata) Indir. cool. open circuit water (delivery)	21	65							
						CWR	Acqua raffr. indir. circuiti aperti (ritorno) Indir. cool. open circuit water (return)	21	65							
						KW	Acqua raffr. diretto circ. aperti (mandata) Direct cool. open circuit water (delivery)	21	65							
						MW	Acqua filtrata di reintegro Filtered water (Make-up)	21	65							
	15÷40					DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							
D 16JV	15÷350	PN16RF	C Steel	13% Cr AISI 304	2,50	SL	Acqua con fanghi Water polluted with sludges	12	65							Scaglia-scale 2÷15%
	15÷40			NBR		DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							



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Piping Class	Line					Fluid		Design conditions		Hazard degree			NDT class N 2.8.114	Line heating		Remarks
	DN/NPS Range	Rating Class Facing	Pipe Material	Valve Trim Material	Corr. allow. mm	Fluid item	Fluid specification	barg	°C	Toxic	Explos.	Flamm.		Heat. type	Insul. type	
D 16JZ	15÷500	PN16RF	C Steel	13% Cr AISI 304 NBR	2,50	KWR	Acqua raffr. diretto circuiti aperti (ritorno) trasp. acqua con scaglia Direct cooling water open circuit (return) scale polluted water	12	65							Scaglia-scale > 800 ppm
	15÷40					DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							
D 16 PF	15÷200	PN16T/GF	C steel	AISI 316	1,50	HS	Acido solforico 96÷98% Sulphuric acid 96÷98%	5	80	X				ET	HC	
	15÷40					DR	Dreni Drains	Atm.	65	X				ET	HC	
						VT	Sfiati Vents	Atm.	65	X				ET	HC	
D 16PR	15÷300	PN16RF	C Steel	13% Cr	1,00	LCS	Condensa bassa pressione Low pressure condensate	14	200						PP	
						LST	Vapore bassa pressione Low pressure steam	14	200						HC	
	15÷40					DR	Dreni Drains	Atm.	65						PP	
						VT	Sfiati Vents	Atm.	65						PP	
D 25PR	15÷300	PN25RF	C Steel	13% Cr + St 6	1,25	MCS	Condensa a media pressione Medium pressure condensate	21	220						PP	
						MST	Vapore a media pressione Medium pressure steam	21	220						HC	
	15÷40					DR	Dreni Drains	Atm.	65						PP	
						VT	Sfiati Vents	Atm.	65						PP	



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	DN/NPS Range	Rating Class Facing	Pipe Material	Valve Trim Material	Corr. allow. mm	Fluid item	Fluid specification	barg	°C	Toxic	Explos.	Flamm.		Heat. type	Insul. type	
D 16PS	≥ 150	PN16RF	C Steel	13% Cr AISI 304	0,50	AR	Argon Argon	14	65							
	15÷300					CA	Aria compressa Compressed air	14	65							
	≥ 150					IA	Aria strumenti Instrument air	10	65							
	≥ 150					NI	Azoto Nitrogen	14	65							
	15÷300					PA	Aria di processo Process air	10	65							
	15÷40					DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							
D 25PS	15÷300	PN25RF	C Steel	13% Cr AISI 304	0,50	AR	Argon Argon	21	65							
						CA	Aria compressa Compressed air	21	65							
						NI	Azoto Nitrogen	21	65							
	15÷40					DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							
D 40PS	15÷300	PN40RF	C Steel	13% Cr AISI 304	0,50	AR	Argon Argon	35	65							
						NI	Azoto Nitrogen	35	65							
	15÷40					DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							



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	DN/NPS Range	Rating Class Facing	Pipe Material	Valve Trim Material	Corr. allow. mm	Fluid item	Fluid specification	barg	°C	Toxic	Explos.	Flamm.		Heat. type	Insul. type	
D 16UE	15÷100	PN16RF	C S Gal Bitum.	13% Cr AISI 304	0,75	PW	Acqua potabile Drinking water	10	45							Sottosuolo Underground Zincato e bitumato Galvanized Ex. coated
						CA	Aria compressa Compressed air	14	45							
						IA	Aria strumenti Instrument air	10	45							
	15÷40					DR	Dreni Drains	Atm.	45							
						VT	Sfiati Vents	Atm.	45							
D 16UF	15÷400	PN16RF	C Steel Bitum.	13% Cr AISI 304	1,50	GN	Gas naturale Natural gas	14	45		X	X				Sottosuolo Underground Rivest. estern. Ext. coated
				Viton		LPG	Gas propano liquido Liquid propane gas	14	45		X	X				
	15÷40					DR	Dreni Drains	Atm.	45		X	X				
						VT	Sfiati Vents	Atm.	45		X	X				
D 25UF	15÷300	PN25RF	C Steel Bitum.	13% Cr AISI 304	1,50	GN	Gas naturale Natural gas	21	45		X	X				Sottosuolo Underground Rivest. estern. Ext. coated
						LPG	Gas propano liquido Liquid propane gas	21	45		X	X				
	15÷40					DR	Dreni Drains	Atm.	45							
						VT	Sfiati Vents	Atm.	45							



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04	06/97	Ins. CW, CWR in class D16US
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	DN/NPS Range	Rating Class Facing	Pipe Material	Valve Trim Material	Corr. allow. mm	Fluid item	Fluid specification	barg	°C	Toxic	Explos.	Flamm.		Heat. type	Insul. type	
D 16US	15÷1000	PN16RF	C Steel Bitum.	13% Cr AISI 304 NBR	1,25	CW	Acqua raffr. indir. circ. aperti (mandata) Indir. cool. water open circuit (delivery)	12	45							Sottosuolo Underground Rivestim. esterno External coated
						CWR	Acqua raffr. indir. circuiti aperti (ritorno) Indir. cool. water open circuit (return)	12	45							
						FW	Acqua antincendio Fire-fighting water	14	45							
						MW	Acqua grezza di reintegro Make-up water (Raw water)	14	45							
						NW	Acqua industriale Industrial water	14	45							
	≥ 150					PW	Acqua potabile Drinking water	10	45							
	15÷40					DR	Dreni Drains	Atm.	45							
						VT	Sfiati Vents	Atm.	45							
D 25XS	15÷300	PN25RF	C Steel	AISI 316	1,25	OX	Ossigeno (Gas) Oxygen (Gas)	21	65							
	15÷40					DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							
D 40XS	15÷100	PN40RF	C Steel	AISI 316	1,25	OX	Ossigeno (Gas) Oxygen (Gas)	35	65							
	15÷40					DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							



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Piping Class	Line					Fluid		Design conditions		Hazard degree			NDT class N 2.8.114	Line heating		Remarks
	DN/NPS Range	Rating Class Facing	Pipe Material	Valve Trim Material	Corr. allow. mm	Fluid item	Fluid specification	barg	°C	Toxic	Explos.	Flamm.		Heat. type	Insul. type	
D400XT	OD 6÷16	PN 400	C steel	HCP	0,00	GR	Grasso lubrificante Lubricant grease	320	65							Tubing
						DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							
D 16YT	OD10÷30	PN 16	C Steel	HCP	0,00	HD	Fluidi idraulici (Drenaggi) Hydraulic fluids (Drainages)	12,5	80							Tubing
						HT	Fluidi idraulici (Ritorno) Hydraulic fluids (Return)	12,5	80							
						HFS	Fluidi idraulici (Ricircolo) Hydraulic fluids (Recycle)	12,5	80							
						DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							
D 210YT	OD10÷30	PN 200	C Steel	HCP	0,00	HP	Fluidi idraulici (Mandata) Hydraulic fluids (Delivery)	160	80							Tubing
						DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							



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Piping Class	Line					Fluid		Design conditions		Hazard degree			NDT class N 2.8.114	Line heating		Remarks
	DN/NPS Range	Rating Class Facing	Pipe Material	Valve Trim Material	Corr. allow. mm	Fluid item	Fluid specification	barg	°C	Toxic	Explos.	Flamm.		Heat. type	Insul. type	
D 400YT	OD10÷30	PN 400	C Steel	HCP	0,00	HP	Fluidi idraulici (Mandata) Hydraulic fluids (Delivery)	320	80							Tubing
						DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							
L 10CH	15÷200	PN 10FF	PVC-U	PVC PTFE	0,00	AF	Antischiuma Antifoam	5	50							
						AK	Acqua salina concentrata Concentrate salt water	5	50							
						BE	Eluato basico Rinsing caustic water	5	50							
						BK	Concentrato basico Caustic concentrate	5	50							
						BS	Bisolfito Bisulphite	5	50							
						DB	Biocid dosatore Biocide for dosing unit	5	50							
						DC	Prodotti chimici a dosaggio Chemicals for dosing unit	5	50							
						DD	Dispersore dosatore Dispersant dosing unit	5	50							
						DI	Sodio esametafosfato Sodium esametaphosphate	5	50							
						DS	Stabilizzatore dosatore Stabilizer for dosing unit	5	50							
						DW	Acqua demineralizzata Demineralized water	5	50							Inside demineralized plant
						DZ	Acqua decarbonizzata Dealkalized water	5	50							
						FM	Flocculante Flocculant	5	50							



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Piping Class	Line					Fluid		Design conditions		Hazard degree			NDT class N 2.8.114	Line heating		Remarks
	DN/NPS Range	Rating Class Facing	Pipe Material	Valve Trim Material	Corr. allow. mm	Fluid item	Fluid specification	barg	°C	Toxic	Explos.	Flamm.		Heat. type	Insul. type	
L 10CH	15÷200	PN 10FF	PVC-U	PVC PTFE	0,00	GY	Acqua con gesso Gypson solution	5	50							
						HCB	Acido cloridrico esausto (da decapaggio) Waste hydrochloric acid (from pickling)	5	40							Max 36%
						HS	Acido solforico 33% Sulphuric acid 33%	5	40	X						
						NA	Soda caustica 10÷50% Sodium hydroxide 10÷50%	5	40							
						NH	Ipoclorito di sodio 12,5% Sodium hypochlorite 12,5%	5	40	X						
						NS	Acqua neutralizzata di scarico Neutralized water discharge	5	50							
						PM	Acqua demineralizzata (Osmosi) Permeate water (R.O.)	5	50							
						PS	Fango fosfatato Phosphatized sludge	5	50							
						RA	Acqua di controlavaggio alcalina Alkaline backwashing water	5	50							
						RS	Acqua di controlavaggio acida Acid backwashing water	5	50							
						RW	Acqua di reazione Reject water	5	50							
						SB	Salamoia Brine	5	50							
						SE	Eluato acido Rinsing acid water	5	50							
						SH	Idrato di sodio 50% Sodium hydroxide 50%	5	50							
						SS	Acqua lavaggio acida (a rigenerazione) Acid water (to regeneration procedures)	5	50							
						SW	Acqua addolcita Softened water	5	50							
						DR	Dreni Drains	Atm.	50							
						VT	Sfiati Vents	Atm.	50							



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Piping Class	Line					Fluid		Design conditions		Hazard degree			NDT class N 2.8.114	Line heating		Remarks
	DN/NPS Range	Rating Class Facing	Pipe Material	Valve Trim Material	Corr. allow. mm	Fluid item	Fluid specification	barg	°C	Toxic	Explos.	Flamm.		Heat. type	Insul. type	
L 10 UH	100÷600	PN 2,5	PVC-U	-	0,00	AB	Acqua di scarico (fognatura) Waste water (to sewage)	2,5	45							Sottosuolo Underground
						FK	Acqua lurida Sanitary sewage	2,5	45							
S 16CH	15÷300	PN16RF	AISI 316	AISI 316 EPDM	0,00	AK	Acqua concentrata Concentrated water	12	65							
				AISI 316		NA	Soda caustica 30÷50% Sodium hydroxide 30÷50%	12	65							
				AISI 316 EPDM		MW	Acqua filtrata di processo Process filtered water	12	65							With chemicals additives
						PM	Permeato (acqua pura) Permeate (pure water)	12	65							
	15÷40					DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							
S 25CH	15÷400	PN25RF	AISI 316	AISI 316 EPDM	0,00	AK	Acqua concentrata Concentrated water	21	65							
						DI	Idrazina Hydrazine	21	65							
						MW	Acqua filtrata di reintegro Filtered water	21	65							
						PM	Permeato (acqua pura) Permeate (pure water)	21	65							
	15÷40					DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							



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Piping Class	Line					Fluid		Design conditions		Hazard degree			NDT class N 2.8.114	Line heating		Remarks
	DN/NPS Range	Rating Class Facing	Pipe Material	Valve Trim Material	Corr. allow. mm	Fluid item	Fluid specification	barg	°C	Toxic	Explos.	Flamm.		Heat. type	Insul. type	
S 16PS	15÷300	PN16RF	AISI 304	AISI 304/316/EPDM	0,00	DW	Acqua demineralizzata Demineralized water	9	65							
						KW	Acqua raffr. diretto circ. aperti (mandata) Direct cool. open circuit water (delivery)	12	65							
				AISI 304/316/NBR		LOD	Scarico olio Lube oil discharge	6	80							
				AISI 304/316/NBR		LO	Olio di lubrificazione (Mandata) Lubricating oil (Delivery)	9	80							
				AISI 304/316/NBR		LOR	Olio di lubrificazione (Ritorno) Lubricating oil (Return)	6	80							
				AISI 304/316/EPDM		NS	Acqua neutralizzata Neutralized water	9	65							
						SW	Acqua addolcita Softened water	9	65							
	15÷40					DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							
S 25PS	15÷300	PN25RF	AISI 304	AISI 304 EPDM	0,00	DW	Acqua demineralizzata Demineralized water	21	65							
						KW	Acqua raffr. diretto circ. aperti (mandata) Direct cool. open circuit water (delivery)	21	65							
						NS	Acqua neutralizzata Neutralized water	21	65							
						QW	Acqua raffr. indir. circ. chiusi (mandata) Direct cool. open circuit water (delivery)	21	65							
						QWR	Acqua raffr. indir. circ. chiusi (ritorno) Direct cool. open circuit water (return)	21	65							
						SW	Acqua addolcita Softened water	21	65							
	15÷40					DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							



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	DN/NPS Range	Rating Class Facing	Pipe Material	Valve Trim Material	Corr. allow. mm	Fluid item	Fluid specification	barg	°C	Toxic	Explos.	Flamm.		Heat. type	Insul. type	
S 25XS	15÷300	PN25RF	AISI 304	AISI 316	0,00	OX	Ossigeno Oxygen	20	65							
	15÷40					DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							
S 40XS	15÷100	PN40RF	AISI 304	AISI 316	0,00	OX	Ossigeno Oxygen	35	65							
	15÷40					DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							
S 16YT	OD10÷30	PN 16	AISI 316Ti	HCP	0,00	HD	Fluidi idraulici (Drenaggi) Hydraulic fluids (Drainages)	12,5	80							Tubing
						HT	Fluidi idraulici (Ritorno) Hydraulic fluids (Return)	12,5	80							
						HFS	Fluidi idraulici (Ricircolo) Hydraulic fluids (Recycle)	12,5	80							
						LO	Olio di lubrificazione (Mandata) Lube oil (Delivery)	12,5	80							
						DR	Dreni Drains	Atm.	65							
						VT	Sfiati Vents	Atm.	65							



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