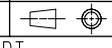


1 2 3 4 5 6 7 8

A
B
C
D
E
F

A
B
C
D
E
F

Net Weight		0,001										
1	002	PAAD356975	PIPING SYMBOL KEY	DAAD130530		0,001						
1	001	107.245.935.500	FLUID VELOCITIES AND FLOW RATES	107.245.935		0,001						
Quantity PER ENGINE	SEQ NO	Material ID	Material Name	Dimension, Occ	Standard or Drawing	Basic Material Material Standard	Weight GR./NET					
107.246.078.200	Free space for lic.					Q-Code XXXXX	Main Drw. H					
						Standard ISO; JIS						
Modif.	A	7-37.090	16.08.2007	B	EAAD090871	26.09.2019	C	EAAD093510	10.06.2020			
MaterialID	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date		
			Product W-2S		VARIOUS INSTALLATION ITEMS INSTALLATION DRAWINGS Verschiedenes Anlage							
Units	mm kg	NX				Basic Material				Net Weight		
SURFACE PROTECTION SEE GROUP 0344		Made	16.01.1996 T.LANDERT		Scale	-		Size	A3	Page	1/1	Material ID
TOLERANCING PRINCIPLE ISO8015		Chkd			Design Group		9730		Drawing ID		107.246.078	
GENERAL TOLERANCES ACCORDING TO ISO2768-mK		Appd	16.01.1996 WCH001 Service User						Rev.		C	

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A	DN Nominal pipe diameter	Medium	Sea-water			Fresh water		Lub. oil		MDO		HFO	
		Pipe material	steel galvanized		Al.brass	mild steel		mild steel		mild steel		mild steel	
		Pump side	suction	delivery	both	suction	delivery	suction	delivery	suction	delivery	suction	delivery
32	m/s	1.0	1.4	-	1.5	1.5	0.6	1.0	0.9	1.1	0.5	0.6	
	m ³ /h	3.5	4.9	-	5.2	5.2	2.1	3.5	3.1	3.8	1.7	2.1	
40	m/s	1.2	1.6	-	1.7	1.7	0.7	1.2	1.0	1.2	0.5	0.7	
	m ³ /h	5.7	7.6	-	8.1	8.1	3.3	5.7	4.7	5.7	2.4	3.3	
50	m/s	1.3	1.8	-	1.9	1.9	0.8	1.4	1.1	1.3	0.5	0.8	
	m ³ /h	10.1	14.0	-	14.8	14.8	6.2	10.9	8.6	10.1	3.9	6.2	
65	m/s	1.5	2.0	-	2.1	2.1	0.8	1.5	1.2	1.4	0.6	0.9	
	m ³ /h	16.7	22.2	-	23.3	23.3	8.9	16.7	13.3	15.6	6.7	10	
80	m/s	1.6	2.1	-	2.2	2.2	0.9	1.6	1.3	1.5	0.6	1.0	
	m ³ /h	27.5	36.1	-	37.8	37.8	15.5	27.5	22.3	25.8	10.3	17.2	
100	m/s	1.8	2.2	-	2.3	2.3	0.9	1.6	1.4	1.6	0.7	1.2	
	m ³ /h	53	65	-	68	68	27	47	41	47	21	36	
125	m/s	2.0	2.3	-	2.4	2.5	1.1	1.7	1.5	1.7	0.8	1.4	
	m ³ /h	93	107	-	112	116	51	79	70	79	37	65	
150	m/s	2.2	2.4	-	2.5	2.6	1.3	1.8	1.5	1.8	0.9	1.6	
	m ³ /h	148	161	-	168	175	87	121	101	121	60	107	
200	m/s	2.3	2.5	2.6	2.6	2.7	1.3	1.8	-	-	-	-	
	m ³ /h	267	291	302	302	314	151	209	-	-	-	-	
250	m/s	2.5	2.6	2.7	2.7	2.7	1.3	1.9	-	-	-	-	
	m ³ /h	458	476	494	494	494	238	348	-	-	-	-	
300	m/s	2.6	2.6	2.8	2.7	2.7	1.3	1.9	-	-	-	-	
	m ³ /h	676	676	728	702	702	338	494	-	-	-	-	
350	m/s	2.6	2.6	2.8	2.7	2.7	1.4	2.0	-	-	-	-	
	m ³ /h	817	817	880	848	848	440	628	-	-	-	-	
400	m/s	2.6	2.7	2.8	2.7	2.7	1.4	2.0	-	-	-	-	
	m ³ /h	1067	1067	1149	1108	1108	575	821	-	-	-	-	
450	m/s	2.6	2.7	2.9	2.7	2.7	1.4	2.0	-	-	-	-	
	m ³ /h	1351	1403	1507	1403	1403	727	1039	-	-	-	-	
500	m/s	2.6	2.7	2.9	2.7	2.7	1.5	2.1	-	-	-	-	
	m ³ /h	1678	1743	1872	1743	1743	968	1356	-	-	-	-	
550	m/s	2.6	2.7	2.9	2.7	2.7	1.5	2.1	-	-	-	-	
	m ³ /h	2044	2122	2279	2122	2122	1179	1651	-	-	-	-	

Remarks:
 The values given in the table are guidance figures only. National standards also may be applied.

Free space for lic.	Q-Code XXXXXX						Main Drw.	
	Standard ISO; JIS							
Modif.	(A) EAAD014289	29.05.1997	(B) EAAD084051	22.01.2013	(C) EAAD090871	22.07.2019		
	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date
		Product W-2S		FLUID VELOCITIES AND FLOW RATES				
Units	mm kg	NX		Basic Material				Net Weight 0,001
SURFACE PROTECTION SEE GROUP 0344		Made 06.10.1995 T.Landert		Scale -	Size A3	Page 1/1	Material ID 107.245.935.500	
TOLERANCING PRINCIPLE ISO8015		Chkd		Design Group 9730		Drawing ID 107.245.935		
GENERAL TOLERANCES ACCORDING TO ISO2768-mK		Appd 07.02.1996 MLU011 Lüthi		Rev. C				

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Piping symbols 1

	Stop valve		Safety valve blow-off free to atmosphere		Diaphragm operated three-way valve
	Gate valve		Vacuum breaker		Angle valve
	Self closing valve		Deaerator		Self closing angle valve
	Float valve		Non-return valve		Angle relief valve
	Quick closing valve remote controlled		Screw down non-return valve		Angle non-return valve
	Control valve		Spring loaded, relief and non-return valve		Angle screw down non-return valve
	Electrically operated valve		Pressure reducing valve		Cock
	Solenoid valve		Pressure reducing valve with safety valve		Three-way cock (T port)
	Hydraulically operated valve		Three-way valve		Two-way cock (L port)
	Electric motor operated valve		Automatic three-way control valve		Angle cock
	Diaphragm valve		Three-way valve (electrically operated)		Butterfly valve
	Safety valve or relief valve		Three-way solenoid valve		Butterfly valve, temperature control valve
	Regulating valve or needle valve		Hydraulically operated three-way valve		Non-return valve, swing type
	Flow regulating valve for control air		Electric motor operated three-way valve		

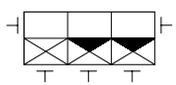
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Free space for lic.		Q-Code XXXXXX	Main Drw.
Standard ISO; JIS			
Modif.			
Number	Drawn date	Number	Drawn date
 WIN GD Winterthur Gas & Diesel		Product W-2S	PIPING SYMBOL KEY
Units	mm kg	NX	Basic Material
			Net Weight 0,001
SURFACE PROTECTION SEE GROUP 0344		Made 02.06.2020 Sudant Deogade	Scale -
TOLERANCING PRINCIPLE ISO8015		Chkd 25.09.2020 jpi101 Pickup	Size A3 Page 1/3
GENERAL TOLERANCES ACCORDING TO ISO2768-mK		Appd 29.09.2020 mhu019 Hug	Design Group 9730
		Material ID PAAD356975	Drawing ID DAAD130530
			Rev. -

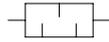
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DWG - DIMENSIONAL DRAWING - Confidential

Piping symbols 2



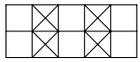
Valve chest with stop and screw down non-return valve



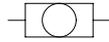
Silencer



Dosing pump



Change over valve chest



Sight glass



Injector/ejector



Foot valve



Flowmeter



Heating coil



Foot valve with suction strainer



Viscosimeter



Heat exchanger



Suction strainer



Electric motor



Heat exchanger



Automatic float vent valve



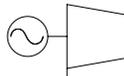
Agitator



Lubricator



Sounding pipe with plug



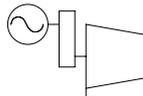
Turbogenerator



Funnel



Condenser



Turbogenerator with gear transmission



Feeding hopper with cover and strainer



Steam trap



Piston compressor



Trough or drip tray



Separator



Centrifugal pump



Throttling disc



Cyclone separator



Vane pump



Ring and blank flange



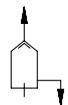
Expansion chamber



Screw or gear pump



Blank flange



Oil vapour trap



Eccentric spiral pump



Flanged connection



Hand pump



Terminal point

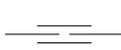
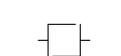
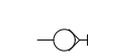
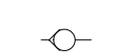
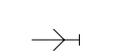
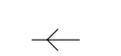
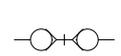
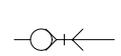
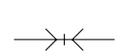
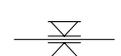
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Free space for lic.			Q-Code XXXXX	Main Drw.
			Standard ISO; JIS	
Modif.	○	○	○	○
	Number	Drawn date	Number	Drawn date
		Product W-2S	PIPING SYMBOL KEY	
Units	mm kg	NX	Basic Material	
SURFACE PROTECTION SEE GROUP 0344		Made	02.06.2020	Sudant Deogade
TOLERANCING PRINCIPLE ISO8015		Chkd	25.09.2020	jpi101 Pickup
GENERAL TOLERANCES ACCORDING TO ISO2768-mK		Appd	29.09.2020	mhu019 Hug
		Scale	-	
		Size	A3	Page 2/3
		Design Group	9730	
		Drawing ID	DAAD130530	
		Material ID	PAAD356975	
		Net Weight	0,001	
		Rev.	-	

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2D - DIMENSIONAL DRAWING - Confidential

Piping symbols 3

	Screwed connection		Flexible hose connection		Air filter condensate drain
	Transition piece (adapter)		Screwed flexible hose connection		Filter
	Quick connection		Flanged flexible hose connection		Duplex filter
	Quick-acting coupling with non-return valve female piece		Rubber hose		Strainer
	Quick-acting coupling with non-return valve male piece		Expansion piece		Air intake filter
	Quick-acting coupling female piece		Packed sliding joint		Pressure indicator (local)
	Quick-acting coupling male piece		Syphon		Level indicator (local)
	Quick-acting coupling complete with two non-return valves		Air vent		Pressure indicator (remote)
	Quick-acting coupling complete with one non-return valve		Air vent with flame arrestor		Level indicator (remote)
	Quick-acting coupling complete		Air vent with air release valve		Pressure alarm, low
	Pipe fixed point		Spray nozzles		Differential pressure alarm, high
	Pipe sliding point				Level alarm, low
	Pipe sliding fixed point				Level alarm, high
					Level switch, low

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Free space for lic.		Q-Code XXXXX		Main Drw.	
Standard ISO; JIS					
Modif.					
Number	Drawn date	Number	Drawn date	Number	Drawn date
 Winterthur Gas & Diesel		Product W-2S		PIPING SYMBOL KEY	
Units	mm kg	NX		Basic Material	
SURFACE PROTECTION SEE GROUP 0344		Made	02.06.2020 Sudant Deogade	Scale	-
TOLERANCING PRINCIPLE ISO8015		Chkd	25.09.2020 jpi101 Pickup	Size	A3
GENERAL TOLERANCES ACCORDING TO ISO2768-mK		Appd	29.09.2020 mhu019 Hug	Page	3/3
		Design Group		Material ID	PAAD356975
		9730		Drawing ID	DAAD130530
				Rev.	-
				Net Weight	0,001

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WinGD W-2S – RECOMMENDED FLUID-FLOW-RATES vs VELOCITIES

TRACK CHANGES

DATE	SUBJECT	DESCRIPTION
2017-02-13	DRAWING SET	First web upload
2019-09-26	107.246.078 107.245.935	Main drg and selection table- new revision
2020-09-30	107.246.078 DAAD130530	Main drg. - new revision Piping symbol key drg. - added

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