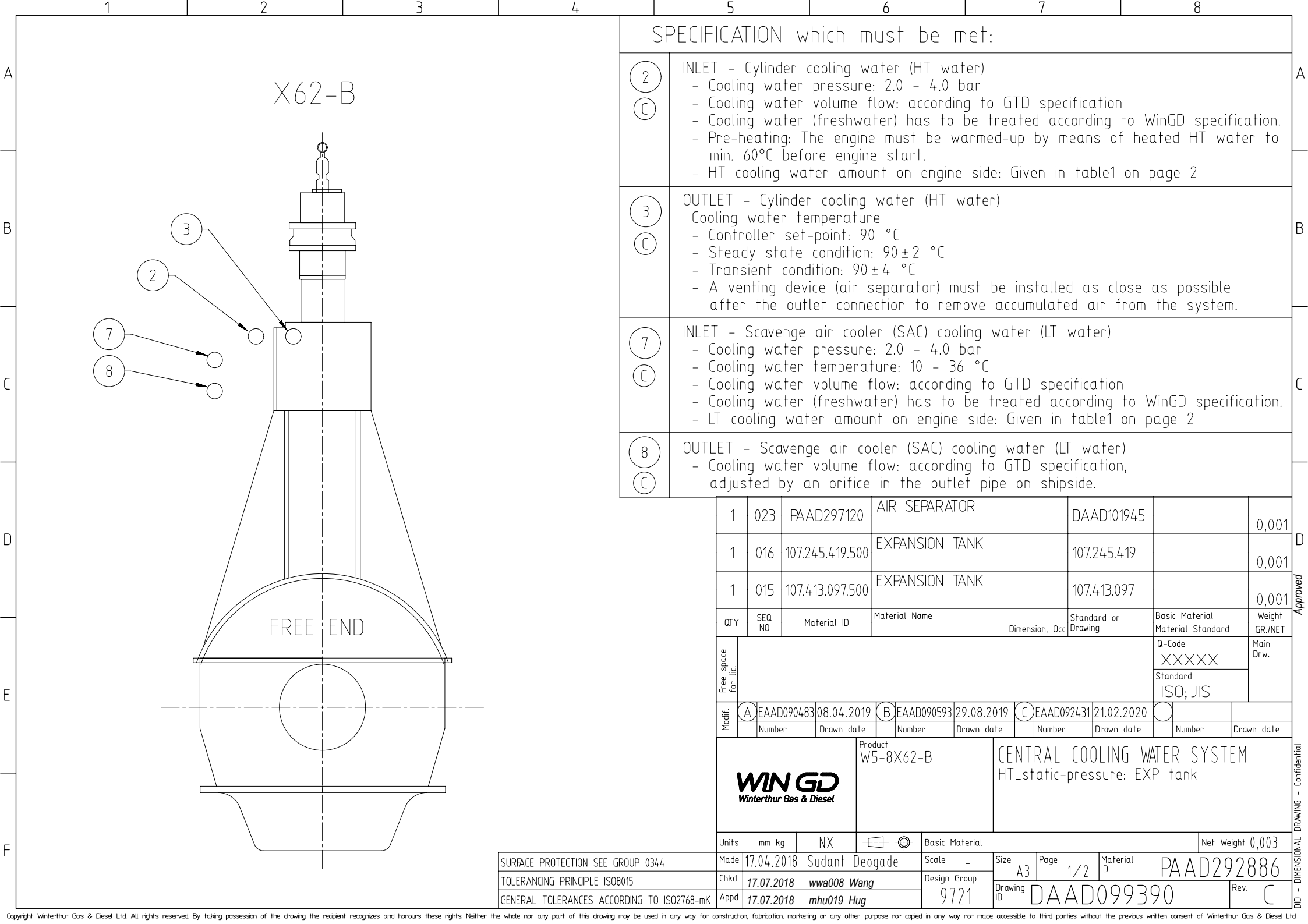


(A)

Approved

Quantity PER ENGINE		SEQ NO	Material ID	Material Name Dimension, Occ				Standard or Drawing	Basic Material Material Standard	Weight GR./NET			
PAAD361059 Material ID	PAAD293106	Free space for lic.							Q-Code XXXXXX	Main Drw. H			
									Standard ISO; JIS				
			Modif:	(A)	EAAD092431	20.07.2020	(C)		(C)			(C)	
			Number	Drawn date		Number	Drawn date		Number	Drawn date		Number	Drawn date

QUID - DIMENSIONAL DRAWING - Confidential

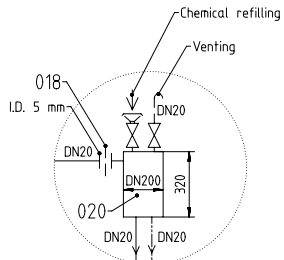


SYSTEM PROPOSAL

Pos.	ENGINE COMPONENTS *3)
EC01	Scavenge air cooler (SAC)
EC02	Manual vent valve, for each cylinder *15)

Pos.	ENGINE CONNECTIONS *2) C
2	INLET - Cylinder cooling water (HT water)
3	OUTLET - Cylinder cooling water (HT water)
7	INLET - Scavenge air cooler (SAC) cooling water (LT water) *7)
8	OUTLET - Scavenge air cooler (SAC) cooling water (LT water) *7)

Pos.	SYSTEM COMPONENTS *1)
001	Low sea chest
002	High sea chest
003	Seawater strainer
004	Air vent (air vent pipe or equal venting system acc. to shipyard's design)
005	Seawater circulating pump
006	Central cooler (LT cooling water)
007	Automatic temperature control valve for LT circuit *13)
008	Temperature sensor of regulating system *13)
009	Cooling water pump for LT circuit
010	Lubricating oil cooler
011	Automatic temperature control valve for HT circuit *14)
012	Temperature sensor of regulating system *14)
013	Cylinder cooling water pump for HT circuit
014	Pre-heating circulating pump (optional), cap. 10% from cylinder cooling pump *8)
015	HT water expansion tank (link to detail drawing on page 1)
016	LT water expansion tank (link to detail drawing on page 1)
017	Pre-heater for main engine (HT circuit)
018	Throttling disc *5)
019	Freshwater generator
020	Chemical treatment refill unit *4)
021	HT cooling water cooler
022	Transition piece (adapter) *9)
023	Air separator (link to detail drawing on page 1)
024	Automatic venting unit

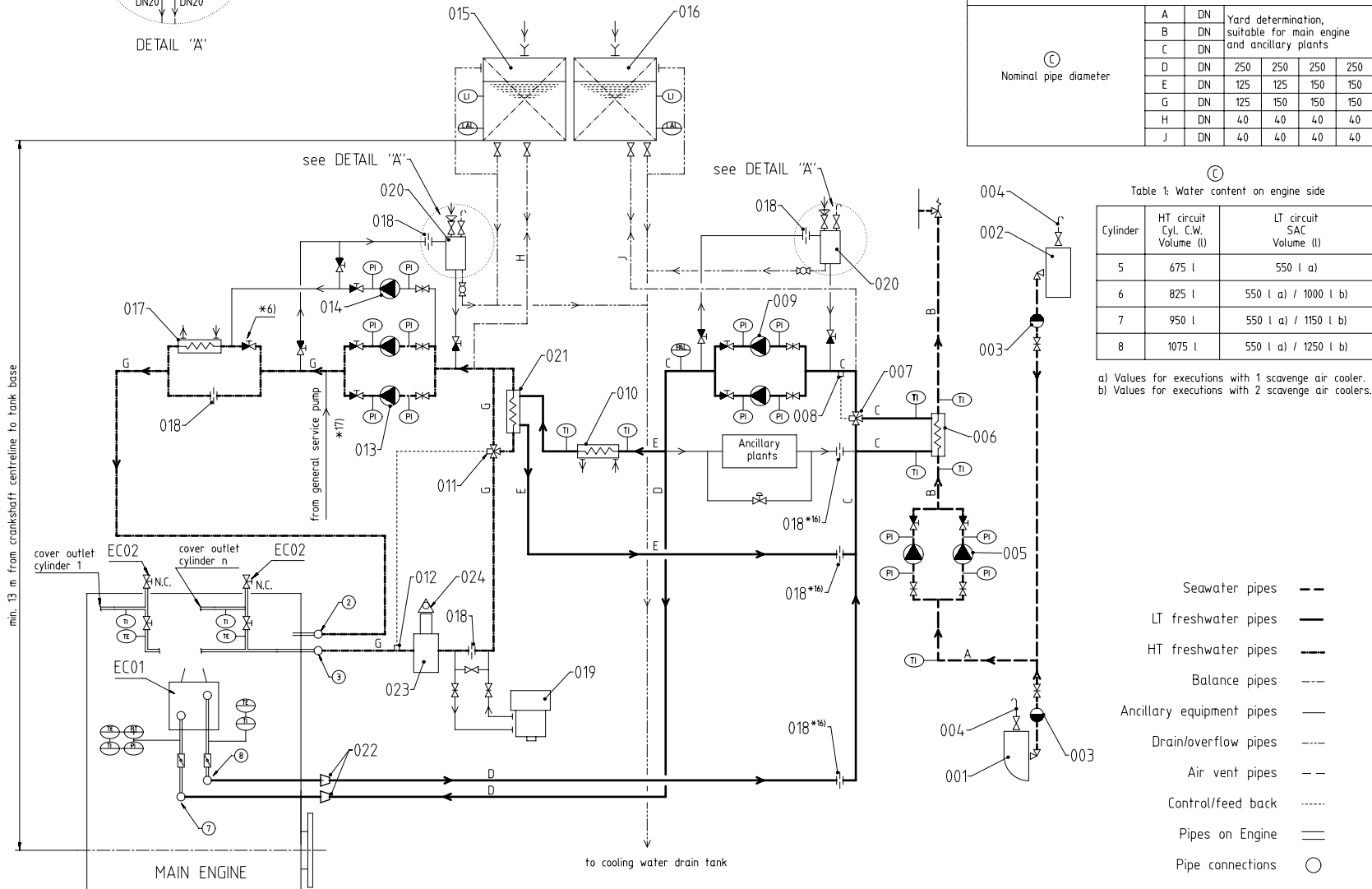


Number of cylinders		5	6	7	8	
Main engine X62-B (R1 rated)	power	(kW)	14500	17400	20300	23200
	speed	(rpm)	103			
Pressure drop across the engine		(bar)	1.3			
Cooling water expansion tank (HT)		Cap.	(m³)	Depending on ancillary plants min. 10% of HT cooling water		
Cooling water expansion tank (LT)		Cap.	(m³)	Depending on ancillary plants min. 10% of LT cooling water		
PROPOSAL for pipe dimensioning *11)						
Ⓒ Nominal pipe diameter	A	DN	Yard determination, suitable for main engine and ancillary plants			
	B	DN				
	C	DN				
	D	DN	250	250	250	250
	E	DN	125	125	150	150
	G	DN	125	150	150	150
	H	DN	40	40	40	40
	J	DN	40	40	40	40

Table 1: Water content on engine side

Cylinder	HT circuit Cyl. C.W. Volume (l)	LT circuit SAC Volume (l)
5	675 l	550 l a)
6	825 l	550 l a) / 1000 l b)
7	950 l	550 l a) / 1150 l b)
8	1075 l	550 l a) / 1250 l b)

a) Values for executions with 1 scavenge air cooler.
b) Values for executions with 2 scavenge air coolers.



- Seawater pipes ---
- LT freshwater pipes —
- HT freshwater pipes —
- Balance pipes ---
- Ancillary equipment pipes —
- Drain/overflow pipes - - - -
- Air vent pipes - -
- Control/feed back - - - -
- Pipes on Engine —
- Pipe connections ○

Remarks: C

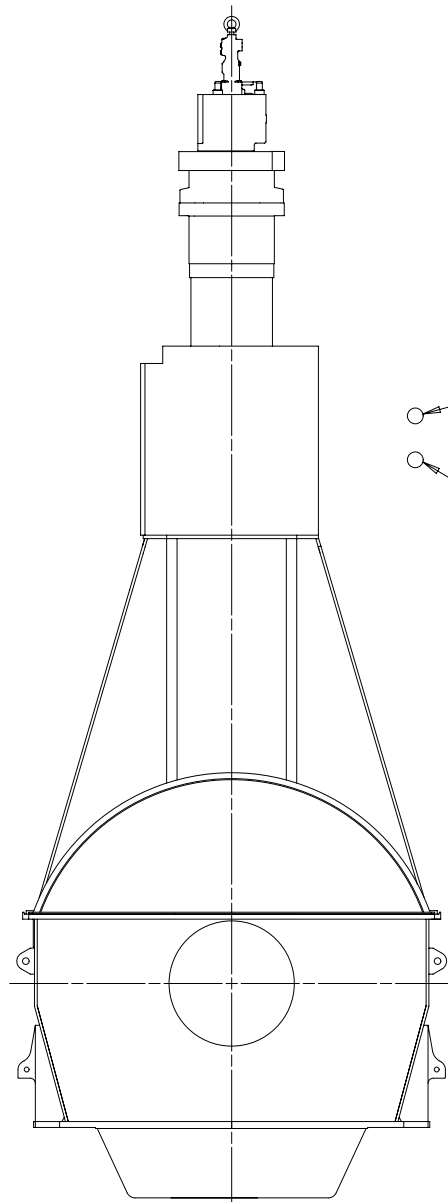
- Air vent and drain pipes not shown on drawing. Shall be installed where required.
- Air vent and drain pipes must be fully functional at all inclination angles of the ship at which the engine must be operational.

*1) To be delivered by external supplier and to be installed by the shipyard.
*2) Refer to the "Pipe Connection Plan" for the execution and location of the engine pipe connection.
*3) To be delivered by the engine manufacturer, i.e. already equipped on engine side.
*4) To be installed for cooling water after-treatment during regular engine operation. Convenient dimensions are provided in view "A". Other designs are possible.
*5) When using a valve, lock in proper position to avoid mishandling.
*6) Only when pos. 014 is installed.
*7) The inlet and outlet pipes to SAC must be designed to allow engine thermal expansion, or be fitted with expansion pieces.
*8) For guidance only, final layout according to actual engine pre-heating requirements.
*9) Installed as required (check with "Pipe Connection Plan")
*11) All given diameters are valid for the mentioned rating and serve just as an example. To make the layout for the project specific rating please refer to D9730 "Fluid velocities and flow rates, recommended values for pipework of diesel plants" for selecting the appropriate pipe diameter. Rating specific flow rates are provided by GTD.
*13) A constant temperature at engine inlet must be maintained. Temperature set-point can be selected between 10 - 36 °C. WinGD recommends a set-point of 25 °C. A lower LT water temperature assists the main engine to reach lower BSFC. If the ancillary plants require a temperature lower or greater than the LT water set-point, a separate water supply system with different temperature set-point has to be installed (please refer to the system proposal in MIM)
*14) A constant temperature at engine outlet must be maintained. Required controller set-point for main engine operation is 90 °C.
*15) Only to be used for manual venting of isolated cylinders after maintenance. To be kept close during engine operation.
*16) Optional, only to be installed if needed for hydraulic balancing.
*17) Optional connection, to be installed if requested by class rules for emergency engine cooling.

Model	Free space for file	Q-Code	XXXXXX	Main Drw.	
Number	Drawn date	Number	Drawn date	Number	Drawn date
1	17.04.2018	2	29.08.2019	3	21.02.2020
Product		CENTRAL COOLING WATER SYSTEM			
W5-BX62-B		HT_static-pressure: EXP tank			
Units	mm kg	NX	Basic Material	Scale	Page
Made		17.04.2018	Sudant Deogade	Scale	Page
Chd		17.07.2018	Wwa008 Wang	Design Group	2/2
Appd		17.07.2018	mtu019 Hug	9721	DAAD099390
SURFACE PROTECTION SEE GROUP 0344		PAAD292886			
TOLERANCING PRINCIPLE ISO8015		Rev. C			
GENERAL TOLERANCES ACCORDING TO ISO2768-mK					

X62-B
DRIVING END

FUEL SIDE



EXHAUST SIDE

SPECIFICATION which must be met:

- 1 INLET - Cylinder cooling water (HT water)
- Cooling water pressure: 2.0 - 4.0 bar
 - Cooling water volume flow: according to GTD specification.
 - Cooling water (freshwater) has to be treated according to WinGD's specification.
 - A buffer unit must be installed
 - The static pressure at engine inlet must be adjusted by buffer unit pressure setting.
 - Pre-heating: The engine must be warmed-up by means of heated HT water to min. 60°C before engine start.
 - HT cooling water amount on engine side: Given in table1 on page 2
- 3 OUTLET - Cylinder cooling water (HT water)
- Cooling water temperature set point: 90 °C
 - Controller set-point: 90 °C (controller type: PI)
 - Steady state condition: 90 ± 2 °C
 - Transient condition: 90 ± 4 °C
 - A venting device (air separator) must be installed as close as possible after the outlet connection to remove accumulated air from the system
- 7 INLET - Scavenge air cooler (SAC) cooling water (LT water)
- Cooling water pressure: 2.0 - 4.0 bar
 - Cooling water temperature: 10 - 36 °C
 - Cooling water volume flow: according to GTD specification.
 - Cooling water (freshwater) has to be treated according to WinGD's specification.
 - LT cooling water amount on engine side: Given in table1 on page 2
- 8 OUTLET - Scavenge air cooler (SAC) cooling water (LT water)
- Cooling water volume flow: according to GTD specification, adjusted by an orifice in the outlet pipe on shipside.

1	029	PAAD297120	AIR SEPARATOR	DAAD101945		0,001						
1	021	107.245.419.500	EXPANSION TANK	107.245.419		0,001						
1	020	107.245.626.500	BUFFER	107.245.626		0,001						
QTY	SEQ NO	Material ID	Material Name	Dimension, Occ	Standard or Drawing	Basic Material Material Standard	Weight GR./NET					
Free space for lic.						Q-Code	Main Drw.					
						XXXXXX						
						Standard ISO; JIS						
Modif.	☐		☐		☐		☐					
	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date				
 Winterthur Gas & Diesel			Product 5-8X62-B		CENTRAL COOLING WATER SYSTEM HT_static-pressure: Buffer-unit Zentralkuehlwassersystem							
Units		mm kg			Basic Material		Net Weight 0,001					
Made	17.07.2020	Sudant Deogade		Scale	-	Size	A2	Page	1/2	Material ID	PAAD360902	
Chkd	30.09.2020	jpi101 Pickup		Design Group		9721			Drawing ID	DAAD133064	Rev.	-
Appd	30.09.2020	mhu019 Hug										



(F)

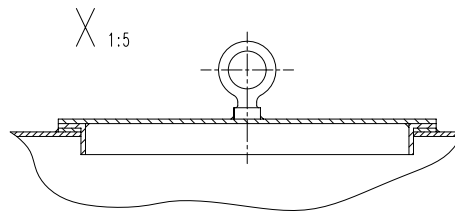
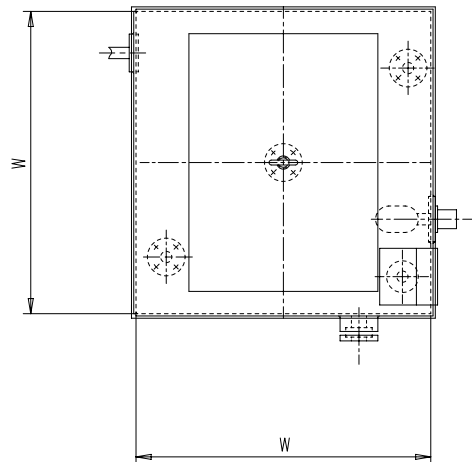
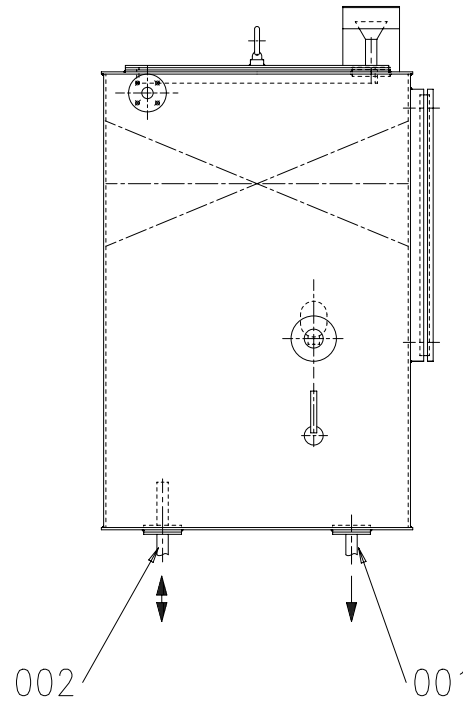
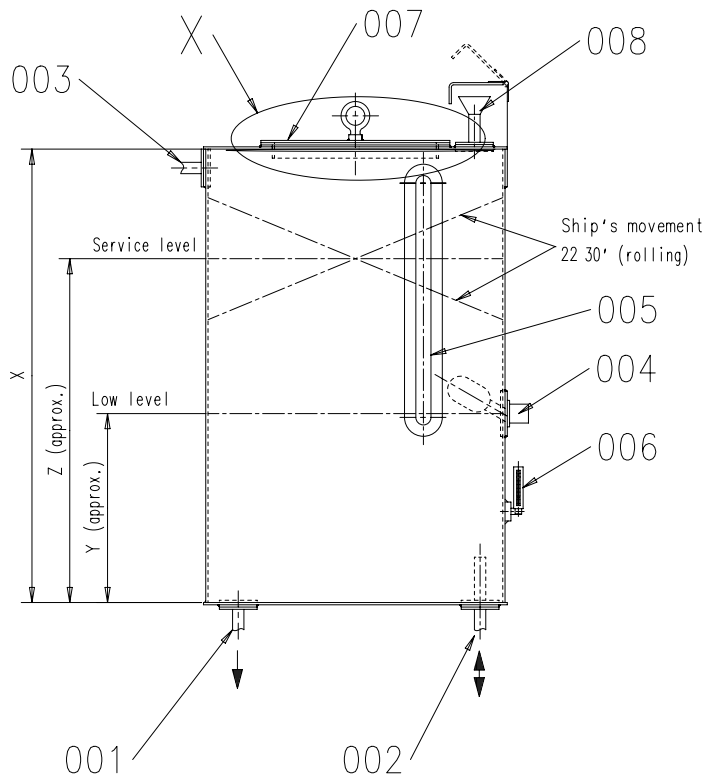


- 01 Compressed air supply from control air valve,
DN15 with blank flange
- 02 Pressure indicator, DN25 with blank flange
- 03 Safety and relief valve adjustment 5,5 bar
DN32 with blank flange
- 04 Level alarm high, with blank flange
- 05 Level alarm low, with blank flange
- 06 Compensation, DN80 with blank flange
- 07 Drain, DN32 with blank flange
- 08 Feed, DN32 with blank flange
- 09 Flanges for level indicator
- ① 11 Valve for level indicator, self-closing type
- 12 Level indicator
- 13 Level switch high, with blank flange **
- 14 Level switch low, with blank flange **

Model	Date 7/29/08							D-Code XXXXXX	Mfr. Pty.
								ISO	
C	7-61	04.05.2008	E	EA0000001	14.06.2012	E	EA0000172	02.07.2014	18.10.2014
	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date	
					BUFFER TO CYL.,COOLING WATER SYS				
Part No. W-25					Puffer				
Unit's	mm kg	ID#		Mater's Material				Nat Weight 0,001	
Date	22.09.01	5.571 (AUK)							
				Size	Avg	1/1	107.245,626,500		
				Drilling	107.245,626			F	

(F) ** Tank volume between LSH and LSL shall be no less than 150 litres.

(F)



drawing view shows dimensioning scale for 0.75 m³ capacity

Pos.	Description
001	Drain from HT circuit
002	Balance pipe from HT circuit
003	Overflow/air vent
004	Low level alarm
005	Level indicator *1)
006	Thermometer
007	Inspection cover *2)
008	Filling pipe/inlet chemical treatment *2)

Remarks:

- *1) Level indicator can be omitted if an alternative is fitted.
- *2) Other designs like hinged covers, etc. are also possible

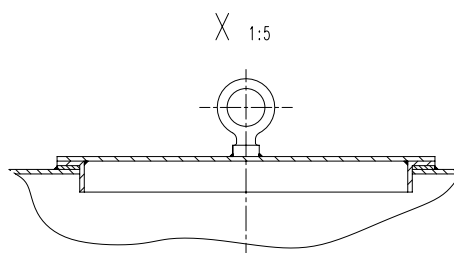
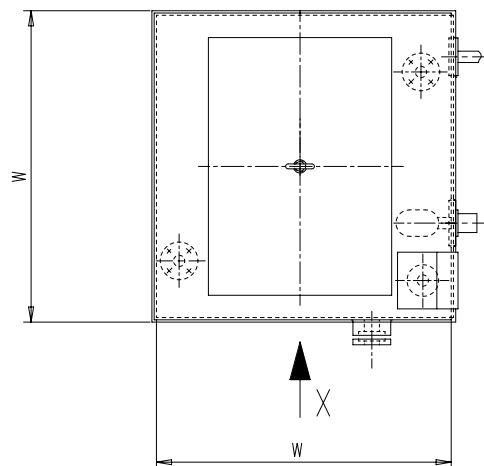
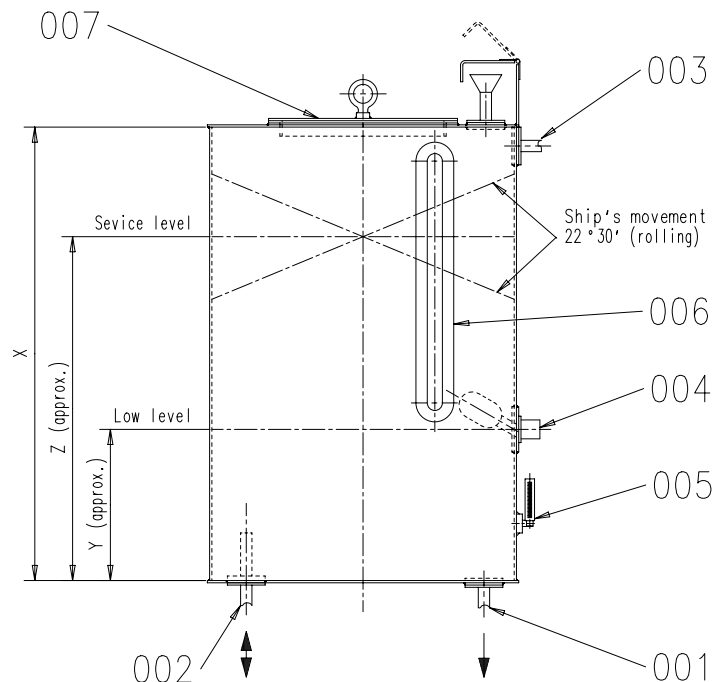
- Tank dimensions are defined by the Tank capacity, as seen in Table 1. For capacity and pipe diameter, refer to drawing 'Central cooling water system'.

Table 1: Tank dimensions

HT Tank capacity	W	X	Y	Z
(m ³)	(mm)	(mm)	(mm)	(mm)
0.5	800	800	330	640
0.75	800	1200	500	960
1.0	800	1600	670	1280
1.25	1000	1250	530	1000
1.5	1000	1500	630	1200
1.75	1000	1750	730	1400
2.0	1000	2000	830	1600

Free space for lic.	Q-Code XXXXXX Standard ISO; JIS	Main Drw.
Modif. A	EAAD091567	15.11.2019
Number	Drawn date	Number
Drawn date	Number	Drawn date
Number	Drawn date	Number
Drawn date	Number	Drawn date

WIN GD Winterthur Gas & Diesel		Product W-25	EXPANSION TANK CENTRAL COOLING WATER HT CIRCUIT Ausgleichstank Zentralkuehlwassersystem HT circuit	
Units	mm kg	NX	Basic Material	Net Weight 0,001
Surface protection	SEE GROUP 0344	Made	16.04.2009 M.PRSTEC	Scale 1:10
Tolerancing principle	ISO8015	Chkd		Size A2
General tolerances	ACCORDING TO ISO2768-mK	Appd	30.04.2009 MPR002 Prstec	Page 1/1
				Material ID 107.413.097.500
				Drawing ID 107.413.097
				Rev. A



Drawn for 0.75 m³ capacity

Pos.	Description
001	Drain
002	Balance pipe from LT circuit
003	Overflow/air vent
004	Low level alarm
005	Thermometer
006	Level indicator *1)
007	Inspection cover *2)
008	Filling pipe/inlet chemical treatment *2)

Remarks:

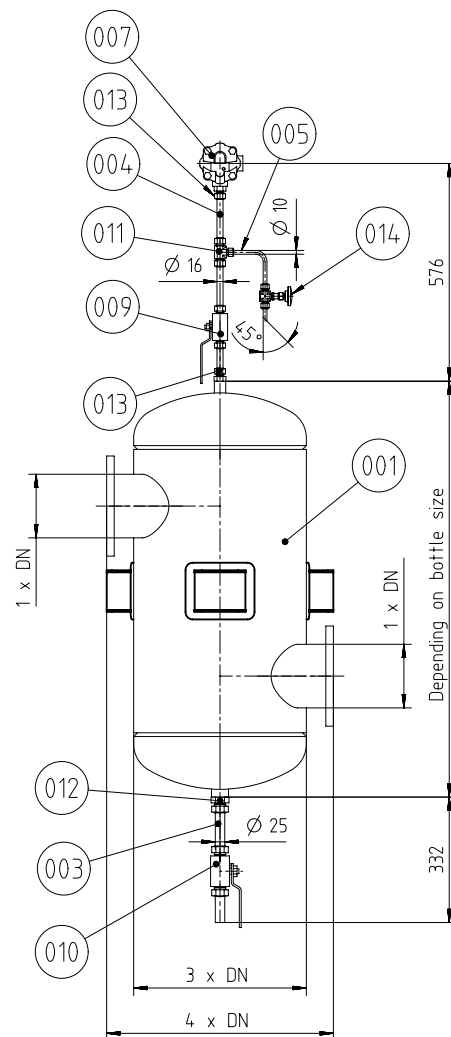
- *1) Level indicator can be omitted if an alternative is fitted.
- *2) Other designs like hinged covers, etc. are also possible

- For required tank capacity and pipe diameters refer to drawing 'Central cooling water system'

Table 1: Tank dimensions

LT tank capacity	W	X	Y	Z
(m ³)	(mm)	(mm)	(mm)	(mm)
0.5	800	800	330	640
0.75	800	1200	500	960
1.0	800	1600	670	1280
1.25	1000	1250	530	1000
1.5	1000	1500	630	1200
1.75	1000	1750	730	1400
2.0	1000	2000	830	1600

Modif.	Free space for lic.						Q-Code XXXXXX Standard ISO; JIS	Main Drw.			
	A	EAAD014356	16.06.1997	B	7-37.090	16.08.2007	C	EAAD083145	25.01.2012	D	EAAD091029
Number		Drawn date		Number		Drawn date		Number		Drawn date	
								Product W-25		EXPANSION TANK CENTRAL COOLING WATER LT CIRCUIT Ausgleichstank Zentralkuehlwassersystem LT	
Units		mm kg		NX		Basic Material		Net Weight		0,001	
SURFACE PROTECTION SEE GROUP 0344 TOLERANCING PRINCIPLE ISO8015 GENERAL TOLERANCES ACCORDING TO ISO2768-mK				Made 11.06.1997 T.LANDERT Chkd Appd 11.06.1997 WCH001 Service User		Scale 1:10 Design Group 9721		Size A2 Page 1/1 Drawing ID 107.245.419		Material ID 107.245.419.500 Rev. D	



PIPE LENGTHS TO BE DECIDED BY SHIPYARD

1	014	107.324.704.001	NEEDLE VALVE DN7	107.324.704	Steel	0,438
2	013	107.324.101.017	SCREW-IN UNION DN12xG1/2	107.324.101	Steel	0,125
1	012	107.324.101.021	SCREW-IN UNION DN20xG1	107.324.101	Steel	0,329
1	011	107.324.131.007	TEE UNION DN12 x DN7	107.324.131	Steel	0,25
1	010	107.324.703.005	BALL VALVE DN20	107.324.703	Steel	1,24
1	009	107.324.703.003	BALL VALVE DN12	107.324.703	Steel	
1	007	PAAD185947	AUTOMATIC VENTING UNIT Rp1/2	DAAD065150		2,5
1m	005	005.405.131.043	PIPE DN7 / 10 x 1.5		W-FU-235-N-T	0,31
1m	004	005.405.131.087	PIPE DN12 / 16 x 2		W-FU-235-N-T	0,69
0,25m	003	005.405.131.131	PIPE DN20 / 25 x 2		W-FU-235-N-T	1,13
1	001	PAAD297112	AIR SEPARATOR	DAAD101890		139
QTY	SEQ NO	Material ID	Material Name Dimension, Occ	Standard or Drawing	Basic Material Material Standard	Weight GR./NET

Free space for file		Q-Code XXXXXX Standard ISO; JIS		Main Drw.						
Modif.	A	EAAD090871	26.09.2019	B	EAAD096344	10.03.2021				
	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date		
WIN GD Winterthur Gas & Diesel		Product W-25		AIR SEPARATOR						
Units	mm kg	NX		Basic Material		Net Weight 0.001				
Made	06.06.2018 Kashyap Patel		Scale	1:10		Size	A2		Page	1/1
Chkd	17.07.2018 wwa008 Wang		Design Group			Material ID	PAAD297120		Rev.	B
Appd	17.07.2018 mhu019 Hug		9721	Drawing ID		DAAD101945				

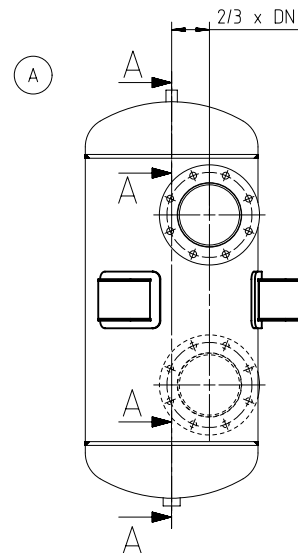
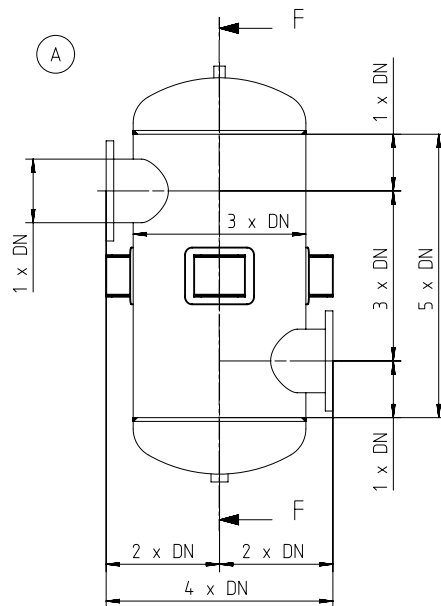
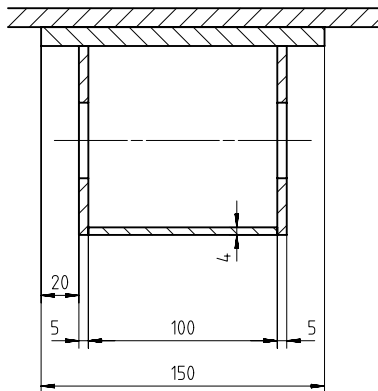
SURFACE PROTECTION SEE GROUP 0344

TOLERANCING PRINCIPLE ISO8015

Rohrklasse PIPE CLASS	III	Medium MEDIUM	Wasser WATER	Pruefueberdruck TEST OVERPRESSURE	7.5	bar
Schweiss Qualitaet WELDING QUALITY LEVEL	D	Toleranzklasse TOLERANCE GRADE	B	Befr.druck OPER. PRESS.	5	bar

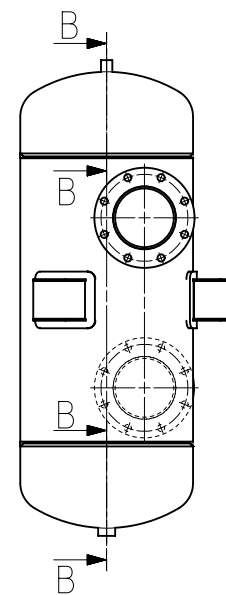
AIR SEPARATOR PROPOSAL

SECTION H-H
SCALE 1:2



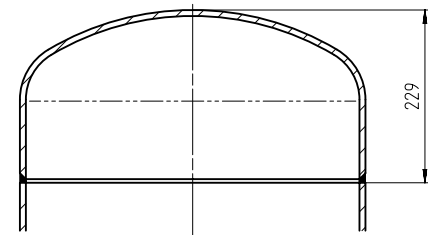
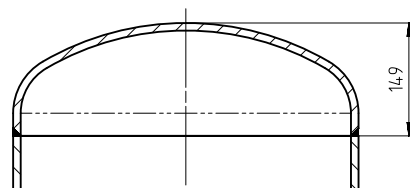
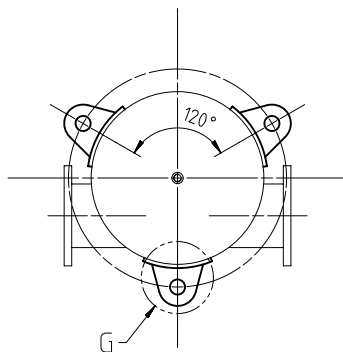
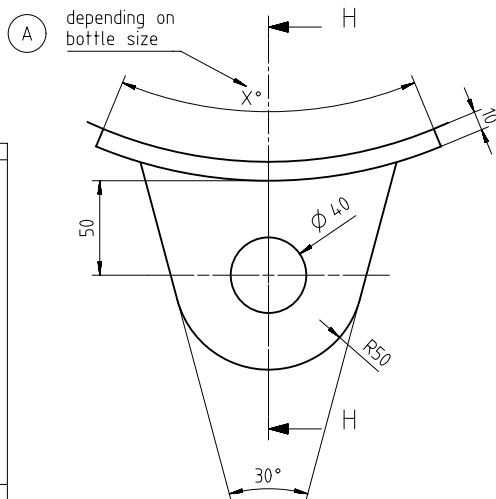
SECTION A-A
SCALE 1:5

JIS

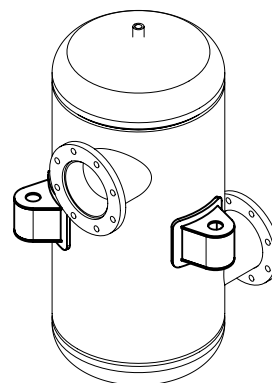


SECTION B-B
SCALE 1:5

DETAIL G
SCALE 1:2



Qualitätsstufe D (siehe 4-107.345.444)
WELD QUALITY LEVEL D (SEE 4-107.345.444)



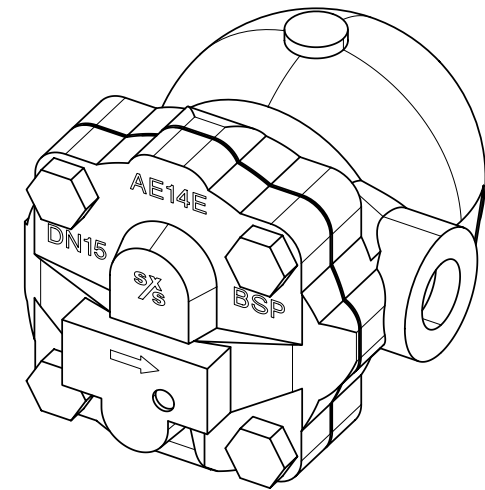
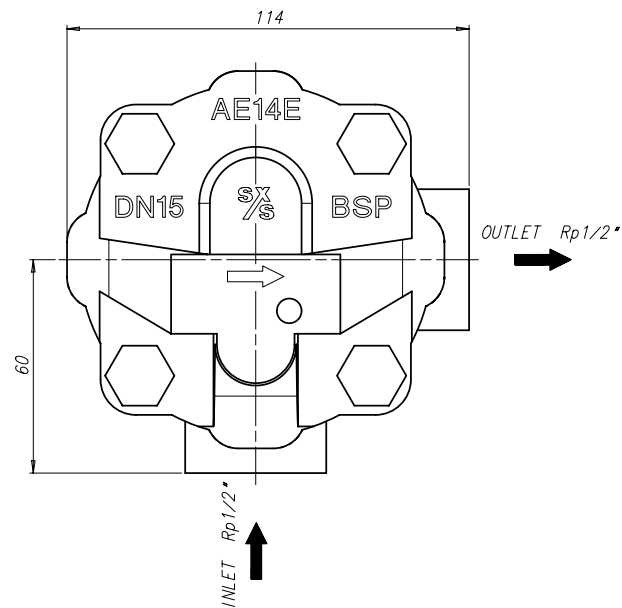
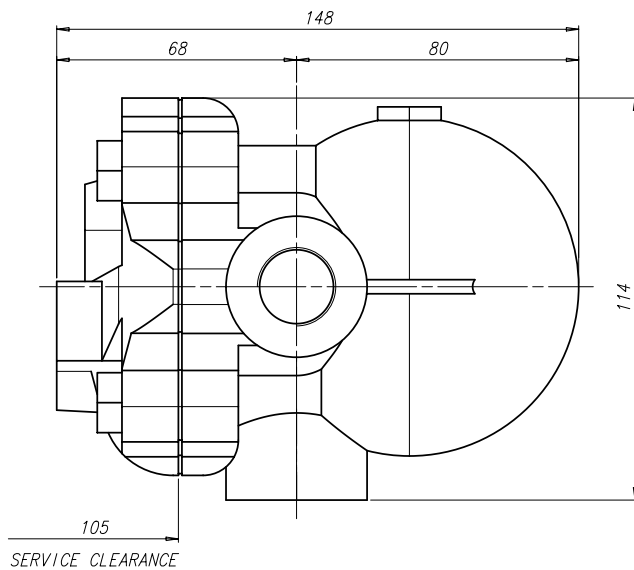
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Modif.	EAAD090871	09.09.2019			
Number	Drawn date	Number	Drawn date	Number	Drawn date
Product W-2S		AIR SEPARATOR			
Units mm kg		NX		Basic Material	
Made 05.06.2018 Kashyap patel		Scale 1:10		Size A2	
Chkd 17.07.2018 wwa008 Wang		Design Group		Material PAAD297112	
Appd 17.07.2018 mhu019 Hug		9721		Drawing ID DAAD101890	
SURFACE PROTECTION SEE GROUP 0344		TOLERANCING PRINCIPLE ISO8015		Net Weight 0.001	
TOLERANCE GRADE		TOLERANCE GRADE		Rev. A	

Approved

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TOLERANCE GRADES						
TOL.	DIMENSION NO.					
GRADE	1	2	3	4	5	6
A	±1.0	*	±2.0	±2.0	±0.5	±0.5
B	±3.0	*	±3.0	±2.0	±0.5	±0.5
C	±6.0	*	±3.0	±2.0	±0.5	±0.5
A	±2.0	*	±2.0	±2.0	±1.0	±1.0
B	±4.0	*	±3.0	±3.0	±1.0	±1.0
C	±6.0	*	±3.0	±3.0	±1.0	±1.0

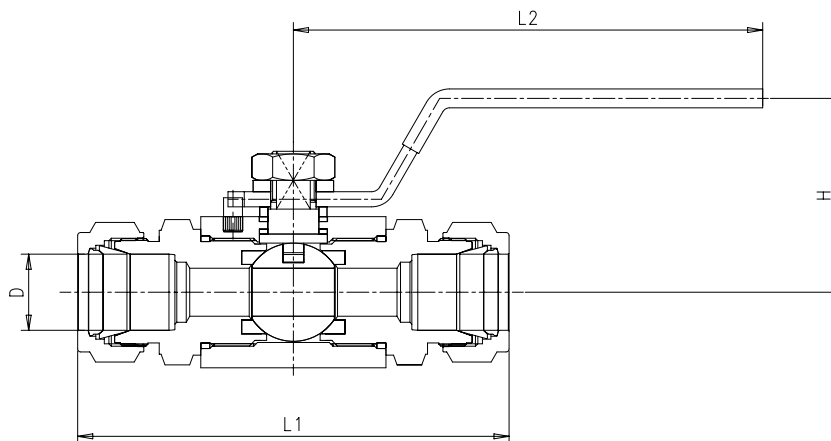
* for these tolerances see chapter 22 of the piping instruction 4-107.354.915



SUPPLIER:
SPIRAX SARCO AG
www.SpiraxSarco.com

SPECIFICATIONS:
AUTOMATIC AIR VENT SPIRAX SARCO TYPE AE14E, PN16, SIZE Rp1/2"
PRESSURE LEVEL : PN16
MAX. OPERATING PRESSURE (PMO): 14 bar
MAX. OPERATING TEMPERATURE (TMO): 127° C
MAX. PRESSURE DIFFERENCE: 14 bar

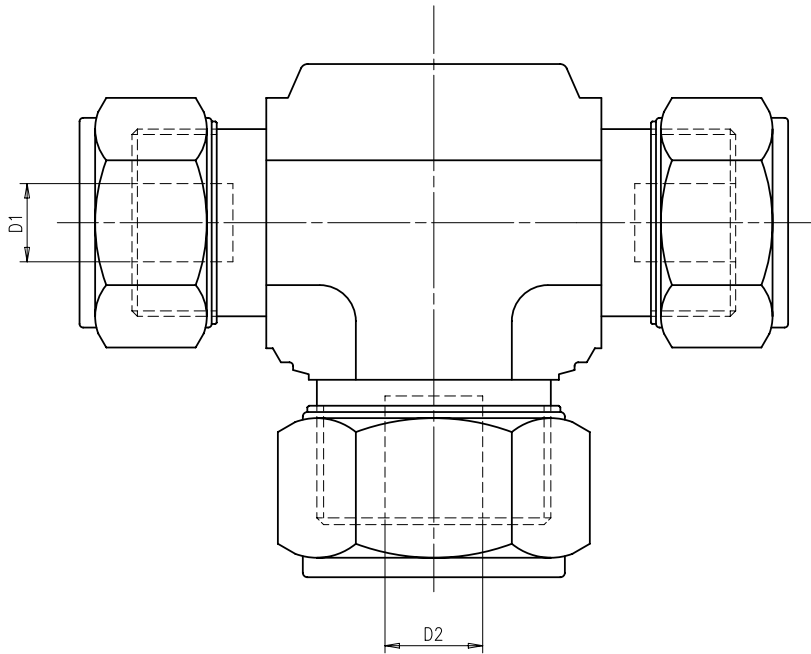
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Standard ISO		JIS			
Modif.	Number	Drawn date	Number	Drawn date	Number
Product W-2S		AUTOMATIC VENTING UNIT ORDER DRAWING Entlüftungsautomat Bestellzeichnung			
Units mm kg		IDE		Basic Material	
Net Weight 2.5					
SURFACE PROTECTION SEE GROUP 0344		Made 08.04.2015 Aditya Gole		Scale 1:1	
TOLERANCING PRINCIPLE ISO8015		Chkd 27.05.2015 ast044 Stephan		Size A2	
GENERAL TOLERANCES ACCORDING TO ISO2768-mK		Appd 27.05.2015 bha009 Haag		Page 1/1	
				Material ID PAAD185947	
				Drawing ID DAAD065150	
				Rev. -	



Artikel Nummer	DN	TUBE D	L1	L2	H	MAX. WORKING PRESSURE	OPERATING TEMPERATURE (°C)	Seat Material
107.324.703.001	DN07	10	104.91	108.75	38.41	6000 (413bar)	-30 to +180	PCTFE
107.324.703.002	DN09	12	109.71	108.75	38.41			
107.324.703.003	DN12	16	114.96	124.2	51.3			
107.324.703.004	DN15	20	114.16	124.2	53.1			
107.324.703.005	DN20	25	134.08	149.2	58.1			

siehe Hauptzeichnung für Spezifikation
SEE MAIN DRAWING FOR SPECIFICATION

1	005	107.324.703.005	BALL VALVE	DN20	107.324.703	Steel	1,24
1	004	107.324.703.004	BALL VALVE	DN15	107.324.703	Steel	1,03
1	003	107.324.703.003	BALL VALVE	DN12	107.324.703	Steel	0,55
1	002	107.324.703.002	BALL VALVE	DN9	107.324.703	Steel	0,511
1	001	107.324.703.001	BALL VALVE	DN7	107.324.703	Steel	0,494
QTY	SEQ NO	Material ID	Material Name	Dimension, Occ	Standard or Drawing	Basic Material Material Standard	Weight GR./NET
Modif.		Free space for lic.				Q-Code XXXXXX Standard ISO; JIS	Main Drw.
		A EAAD700077	13.04.2011	B EAAD083575	01.10.2012	C EAAD096344	12.03.2021
		Number	Drawn date	Number	Drawn date	Number	Drawn date
 Winterthur Gas & Diesel			Product W-2S		BALL VALVE		
					Kugelhahn		
Units	mm kg	NX			Basic Material		Net Weight
SURFACE PROTECTION SEE GROUP 0344		Made	29.04.2005	sga006	S.GASSER	Scale 1:1	Size A2
TOLERANCING PRINCIPLE ISO8015		Chkd	S.Gasser		Design Group	Page 1/1	Material ID
GENERAL TOLERANCES ACCORDING TO ISO2768-mK		Appd	04.05.2005	MFR001	Frei	0333	107.324.703
		Drawing ID		107.324.703		Rev.	C

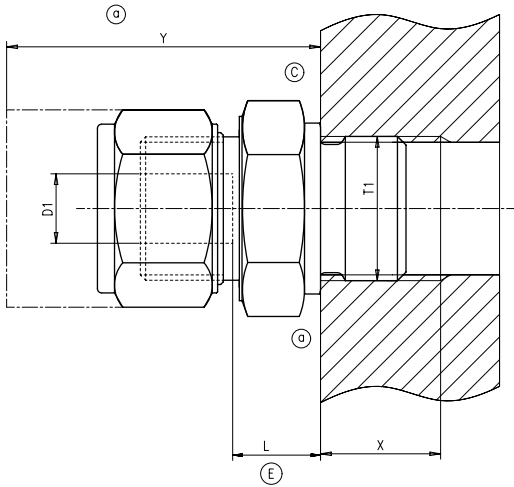


Artikel Nummer	DN	TUBE D1	TUBE D2
107.324.131.001	DN07	10	6
107.324.131.002	DN09	12	8
107.324.131.003	DN09	12	10
107.324.131.004	DN09	12	16
107.324.131.005	DN12	16	6
107.324.131.006	DN12	16	8
107.324.131.007	DN12	16	10
107.324.131.008	DN12	16	12
107.324.131.009	DN12	16	20
107.324.131.010	DN15	20	10
107.324.131.011	DN15	20	12
107.324.131.012	DN15	20	16
107.324.131.013	DN15	20	25
107.324.131.014	DN20	25	16
107.324.131.015	DN20	25	20

② siehe Hauptzeichnung für Spezifikation SEE MAIN DRAWING FOR SPECIFICATION									
1	015	107.324.131.015	TEE UNION	25 x 20 x 25	107.324.131	Steel			0.642
1	014	107.324.131.014	TEE UNION	25 x 16 x 25	107.324.131	Steel			0.615
1	013	107.324.131.013	TEE UNION	20 x 25 x 20	107.324.131	Steel			0.592
1	012	107.324.131.012	TEE UNION	20 x 16 x 20	107.324.131	Steel			0.471
1	011	107.324.131.011	TEE UNION	20 x 12 x 20	107.324.131	Steel			0.443
1	010	107.324.131.010	TEE UNION	20 x 10 x 20	107.324.131	Steel			0.46
1	009	107.324.131.009	TEE UNION	16 x 20 x 16	107.324.131	Steel			0.442
1	008	107.324.131.008	TEE UNION	16 x 12 x 16	107.324.131	Steel			0.262
1	007	107.324.131.007	TEE UNION	16 x 10 x 16	107.324.131	Steel			0.25
1	006	107.324.131.006	TEE UNION	16 x 8 x 16	107.324.131	Steel			0.243
1	005	107.324.131.005	TEE UNION	16 x 6 x 16	107.324.131	Steel			0.241
1	004	107.324.131.004	TEE UNION	12 x 16 x 12	107.324.131	Steel			0.271
1	003	107.324.131.003	TEE UNION	12 x 10 x 12	107.324.131	Steel			0.195
1	002	107.324.131.002	TEE UNION	12 x 8 x 12	107.324.131	Steel			0.19
1	001	107.324.131.001	TEE UNION	10 x 6 x 10	107.324.131	Steel			0.127
QTY	SED NO	Material ID	Material Name	Dimension/Occ.Dimension	Standard or Drawing	Basic Material Material Standard	Weight GR./NET		
Free space for file.						Q-Code	XXXXX	Main Draw.	
						Standard	ISO JIS		
Modif.	A EAAD700021 13.01.2011		B EAAD083575 24.02.2012						
	Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date	
WIN GD Winterthur Gas & Diesel			Product W-2S		TEE UNION T-Verschraubung				
Units	mm kg	IDE				Basic Material		Net Weight	
Mode	17.12.2004 W.DOERIG			Scale 1:1		Page 1/1		Material ID	
Chkd				Design Group		Drawing ID		Rev.	
Appd	28.04.2005 mfr001 Frei			0333		107.324.131		B	

Approved

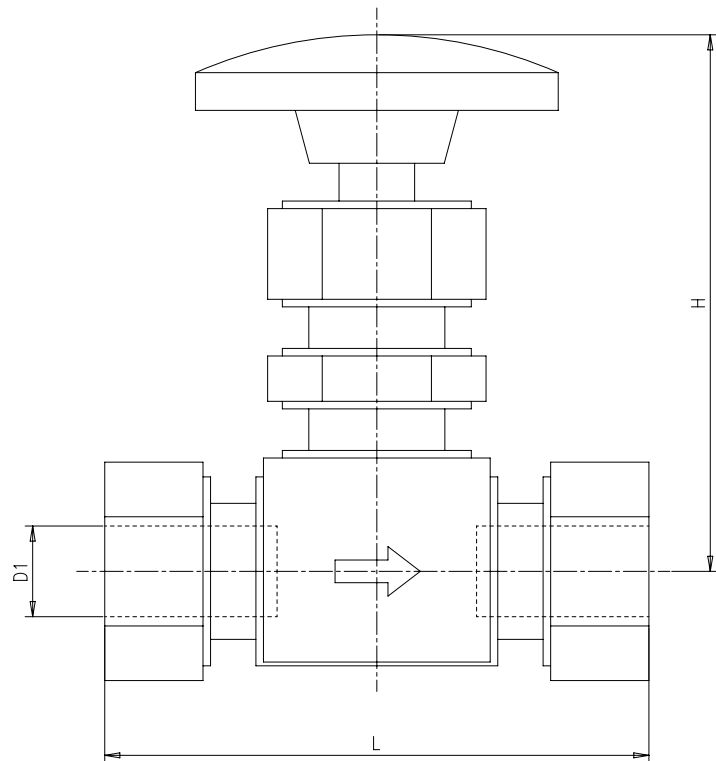
100% - DIMENSIONAL DRAWING - Confidential



(G)						(E)		
	Material ID	DN	TUBE D1	T1	X	Y	L	Order Number
(a)	107.324.101.001	DN04	6	G1/8	9	45	9.9	DMC 6M-2GB-C
	107.324.101.002	DN04	6	G1/4	14	50	11.1	DMC 6M-4GB-C
	107.324.101.003	DN04	6	G3/8	14	50	12.4	DMC 6M-6GB-C
	107.324.101.004	DN04	6	G1/2	17	55	15.2	DMC 6M-8GB-C
(b)	107.324.101.005	DN06	8	G1/8	9	45	9.9	DMC 8M-2GB-C
	107.324.101.006	DN06	8	G1/4	14	50	11.1	DMC 8M-4GB-C
	107.324.101.007	DN06	8	G3/8	14	50	12.4	DMC 8M-6GB-C
	107.324.101.008	DN06	8	G1/2	17	55	15.2	DMC 8M-8GB-C
(c)	107.324.101.009	DN07	10	G1/4	14	50	11	DMC 10M-4GB-C
	107.324.101.010	DN07	10	G3/8	14	50	12.2	DMC 10M-6GB-C
	107.324.101.011	DN07	10	G1/2	17	60	15.1	DMC 10M-8GB-C
	107.324.101.012	DN09	12	G1/4	14	55	8.6	DMC 12M-4GB-C
(d)	107.324.101.013	DN09	12	G3/8	14	55	9.1	DMC 12M-6GB-C
	107.324.101.014	DN09	12	G1/2	17	60	12	DMC 12M-8GB-C
	107.324.101.015	DN09	12	G3/4	19	65	14.3	DMC 12M-10GB-C
	107.324.101.016	DN12	16	G3/8	14	55	8.3	DMC 16M-6GB-C
(e)	107.324.101.017	DN12	16	G1/2	17	60	10.4	DMC 16M-8GB-C
	107.324.101.018	DN15	20	G1/2	17	65	10.3	DMC 20M-8GB-C
	107.324.101.019	DN15	20	G3/4	19	65	11.1	DMC 20M-12GB-C
	107.324.101.020	DN20	25	G3/4	19	70	10.5	DMC 25M-12GB-C
(f)	107.324.101.021	DN20	25	G1	21	70	10.5	DMC 25M-16GB-C
(g)	107.324.101.022	DN20	25	G1 1/4	23	75	12.9	DMC 25M-20GB-C
(h)	107.324.101.023	DN20	25	G1 1/2	25	80	14.5	DMC 25M-24GB-C

Drawn for Dk-Lok
Material: Steel
PN needs to meet the working
pressure of Dk-Lok products.

① siehe Hauptzeichnung für Spezifikation SEE MAIN DRAWING FOR SPECIFICATION									
1	023	107.324.101.023	SCREW-IN UNION	25xG1 1/2	107.324.101	Steel		0,733	
1	022	107.324.101.022	SCREW-IN UNION	25xG1 1/4	107.324.101	Steel		0,543	
1	021	107.324.101.021	SCREW-IN UNION	25xG1	107.324.101	Steel		0,329	
1	020	107.324.101.020	SCREW-IN UNION	25xG3/4	107.324.101	Steel		0,247	
1	019	107.324.101.019	SCREW-IN UNION	20xG3/4	107.324.101	Steel		0,223	
1	018	107.324.101.018	SCREW-IN UNION	20xG1/2	107.324.101	Steel		0,173	
1	017	107.324.101.017	SCREW-IN UNION	16xG1/2	107.324.101	Steel		0,125	
1	016	107.324.101.016	SCREW-IN UNION	16xG3/8	107.324.101	Steel		0,094	
1	015	107.324.101.015	SCREW-IN UNION	12xG3/4	107.324.101	Steel		0,195	
1	014	107.324.101.014	SCREW-IN UNION	12xG1/2	107.324.101	Steel		0,126	
1	013	107.324.101.013	SCREW-IN UNION	12xG3/8	107.324.101	Steel		0,084	
1	012	107.324.101.012	SCREW-IN UNION	12xG1/4	107.324.101	Steel		0,076	
1	011	107.324.101.011	SCREW-IN UNION	10xG1/2	107.324.101	Steel		0,116	
1	010	107.324.101.010	SCREW-IN UNION	10xG3/8	107.324.101	Steel		0,069	
1	009	107.324.101.009	SCREW-IN UNION	10xG1/4	107.324.101	Steel		0,056	
1	008	107.324.101.008	SCREW-IN UNION	8xG1/2	107.324.101	Steel		0,112	
1	007	107.324.101.007	SCREW-IN UNION	8xG3/8	107.324.101	Steel		0,063	
1	006	107.324.101.006	SCREW-IN UNION	8xG1/4	107.324.101	Steel		0,043	
1	005	107.324.101.005	SCREW-IN UNION	8xG1/8	107.324.101	Steel		0,031	
1	004	107.324.101.004	SCREW-IN UNION	6xG1/2	107.324.101	Steel		0,111	
1	003	107.324.101.003	SCREW-IN UNION	6XG3/8	107.324.101	Steel		0,063	
1	002	107.324.101.002	SCREW-IN UNION	6XG1/4	107.324.101	Steel		0,045	
1	001	107.324.101.001	SCREW-IN UNION	6xG1/8	107.324.101	Steel		0,028	
QTY	SEQ NO	Material ID	Material Name	Dimension, Oct	Standard or Drawing	Basic Material	Weight GR/NET	Main Drw.	
								G-code XXXXXX Shrinker ISO, JIS	
107.324.101.023	18.07.2005	107.324.101.023	18.07.2005	107.324.101.023	18.07.2005	107.324.101.023	18.07.2005	107.324.101.023	18.07.2005
107.324.101.022	08.06.2007	107.324.101.022	08.06.2007	107.324.101.022	08.06.2007	107.324.101.022	08.06.2007	107.324.101.022	08.06.2007
107.324.101.021	01.10.2012	107.324.101.021	01.10.2012	107.324.101.021	01.10.2012	107.324.101.021	01.10.2012	107.324.101.021	01.10.2012
107.324.101.020	28.11.2019	107.324.101.020	28.11.2019	107.324.101.020	28.11.2019	107.324.101.020	28.11.2019	107.324.101.020	28.11.2019
107.324.101.019	08.06.2007	107.324.101.019	08.06.2007	107.324.101.019	08.06.2007	107.324.101.019	08.06.2007	107.324.101.019	08.06.2007
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107.324.101.006	08.06.2007	107.324.101.006	08.06.2007	107.324.101.006	08.06.2007	107.324.101.006	08.06.2007	107.324.101.006	08.06.2007
107.324.101.005	08.06.2007	107.324.101.005	08.06.2007	107.324.101.005	08.06.2007	107.324.101.005	08.06.2007	107.324.101.005	08.06.2007
107.324.101.004	08.06.2007	107.324.101.004	08.06.2007	107.324.101.004	08.06.2007	107.324.101.004	08.06.2007	107.324.101.004	08.06.2007
107.324.101.003	08.06.2007	107.324.101.003	08.06.2007	107.324.101.003	08.06.2007	107.324.101.003	08.06.2007	107.324.101.003	08.06.2007
107.324.101.002	08.06.2007	107.324.101.002	08.06.2007	107.324.101.002	08.06.2007	107.324.101.002	08.06.2007	107.324.101.002	08.06.2007
107.324.101.001	08.06.2007	107.324.101.001	08.06.2007	107.324.101.001	08.06.2007	107.324.101.001	08.06.2007	107.324.101.001	08.06.2007
107.324.101.023	18.07.2005	107.324.101.023	18.07.2005	107.324.101.023	18.07.2005	107.324.101.023	18.07.2005	107.324.101.023	18.07.2005
107.324.101.022	08.06.2007	107.324.101.022	08.06.2007	107.324.101.022	08.06.2007	107.324.101.022	08.06.2007	107.324.101.022	08.06.2007
107.324.101.021	01.10.2012	107.324.101.021	01.10.2012	107.324.101.021	01.10.2012	107.324.101.021	01.10.2012	107.324.101.021	01.10.2012
107.324.101.020	28.11.2019	107.324.101.020	28.11.2019	107.324.101.020	28.11.2019	107.324.101.020	28.11.2019	107.324.101.020	28.11.2019
107.324.101.019	08.06.2007	107.324.101.019	08.06.2007	107.324.101.019	08.06.2007	107.324.101.019	08.06.2007	107.324.101.019	08.06.2007
107.324.101.018	08.06.2007	107.324.101.018	08.06.2007	107.324.101.018	08.06.2007	107.324.101.018	08.06.2007	107.324.101.018	08.06.2007
107.324.101.017	08.06.2007	107.324.101.017	08.06.2007	107.324.101.017	08.06.2007	107.324.101.017	08.06.2007	107.324.101.017	08.06.2007
107.324.101.016	08.06.2007	107.324.101.016	08.06.2007	107.324.101.016	08.06.2007	107.324.101.016	08.06.2007	107.324.101.016	08.06.2007
107.324.101.015	08.06.2007	107.324.101.015	08.06.2007	107.324.101.015	08.06.2007	107.324.101.015	08.06.2007	107.324.101.015	08.06.2007
107.324.101.014	08.06.2007	107.324.101.014	08.06.2007	107.324.101.014	08.06.20				



siehe Hauptzeichnung für Spezifikation
SEE MAIN DRAWING FOR SPECIFICATION

Artikel Nummer	DN	TUBE D1	L	H(open)
107.324.704.001	DN07	10	66	71
107.324.704.002	DN09	12	72	71
107.324.704.003	DN12	16	94	99
107.324.704.004	DN15	20	97	99
107.324.704.005	DN20	25	97	99
107.324.704.006	DN06	8	59,2	60

1	006	107.324.704.006	NEEDLE VALVE	DN6	107.324.704	Steel	0,304					
1	005	107.324.704.005	NEEDLE VALVE	DN20	107.324.704	Steel	1,34					
1	004	107.324.704.004	NEEDLE VALVE	DN15	107.324.704	Steel	1,19					
1	003	107.324.704.003	NEEDLE VALVE	DN12	107.324.704	Steel	0,903					
1	002	107.324.704.002	NEEDLE VALVE	DN9	107.324.704	Steel	0,495					
1	001	107.324.704.001	NEEDLE VALVE	DN7	107.324.704	Steel	0,438					
QTY	SEQ NO	Material ID	Material Name		Standard or Drawing	Basic Material Material Standard	Weight GR./NET					
Free space for file						Q-Code	Main Drw.					
						XXXXXX						
						Standard						
						ISO; JIS						
Modif.	B	7-61981	12.03.2008	C	EAAD700013	19.01.2011	D	EAAD083575	01.10.2012	E	EAAD096344	12.03.2021
		Number	Drawn date		Number	Drawn date		Number	Drawn date		Number	Drawn date
 Winterthur Gas & Diesel			Product W-2S		NEEDLE VALVE							
					Nadelventil							
Units		mm kg		NX				Basic Material				Net Weight

SURFACE PROTECTION SEE GROUP 0344		Made	19.05.2005	sga006	S.GASSER	Scale	2:1	Size	A2	Page	1/1	Material ID		Rev.	E
TOLERANCING PRINCIPLE ISO8015		Chkd				Design Group	0333	Drawing ID	107.324.704						
GENERAL TOLERANCES ACCORDING TO ISO2768-mK		Appd	19.05.2005	MFR001	Frei										

MIDS - WinGD X62-B - Cooling Water System (DG9721)

TRACK CHANGES

DATE	SUBJECT	DESCRIPTION
2018-07-17	DRAWING SET	First web upload
2019-04-10	DAAD099390	System drg – new revision
2019-08-29	DAAD099390	System drg – new revision
2019-09-27	DAAD101945 DAAD101890	Air separator drg – new revision
2020-09-02	107.413.097 107.245.419	System drgs – new revision
2020-10-07	DAAD099475 DAAD099390 DAAD133064 107.324.703 107.324.704	Main and system drgs – new revision
2021-02-24	107.324.101	System drg – new revision
2021-03-30	DAAD101945 107.324.703 107.324.704	System drgs – new revision

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