MATERIAL CERTIFICATES
& OVERVIEW SUBSUPPLIER 201 - 216

MAN TURBO AG

Zusammenstellung der Bescheinigung über verwendete Werkstoffe (gemäß EN 10204)
List of material certificate (according to EN 10204)
Liste des certificats des matèriaux (selon EN 10204)

8730 COOLING WATER PIPING

Zeugnis Nr. Certificate No	Bauteil Component Élément	Abmessung Dimension Dimension	Werkstoff Material Matière	Schmelze Charge Coulée
1	GATE VALVE CL800	G 1/2	A105/A182 F6	72382 79119
2	FLANGE BLIND FORM C PN16	DN25	1.4571	179116E
3	FLANGE C	80-88,9X3,2	C22.8	33346
4	PROPORTIONAL SAFETY GATE	DN 80 / PN 16	DIV.	14159
	PIPE SECTION 201A	DIV.	CS	
	PIPE SECTION 201A	DIV.	CS	
	PIPE SECTION 202A	DIV.	CS	
	PIPE SECTION 202B	DIV.	CS	
	PIPE SECTION 203A-C	DIV.	CS	
	PIPE SECTION 204A-C	DIV.	CS	
	PIPE SECTION 205A-D	DIV.	CS	
	PIPE SECTION 206A-D	DIV.	CS	
	PIPE SECTION 207 A-D	DIV.	CS	
	PIPE SECTION 208A-D	DIV.	CS	
	PIPE SECTION 209A-C	DIV.	CS	
	PIPE SECTION 210A-C	DIV.	CS	
	PIPE SECTION 211A	DIV.	CS	
	PIPE SECTION 212A	DIV.	CS	
	PIPE SECTION 213A-E	DIV.	CS	
	PIPE SECTION 214A-E	DIV.	CS	
	PIPE SECTION 215A-B	DIV.	CS	
	PIPE SECTION 215C-E	DIV.	CS	
	PIPE SECTION 216A-C	DIV.	CS	
	PIPE SECTION 216D-E	DIV.	CS	

ARMATUREN
VERTRIEB
ALMS GMBH

ARMATUREN VERTRIEB ALMS GMBH, Holterkamp 1, 40880 Ratingen

MAN Turbomaschinen AG
Abt. TQB
Egellsstraße 21

13507 Berlin

Ihr Zeichen	Ihre Nachricht	Unser Zeichen	**JG/Br**	Ratingen den,	**04.03.05**

Ihre Bestellung: B58/4004683 312411.10.8730

Unser Auftrag: KA 7113850 Rechnungs-Nr. 66627

Als Anlage übermitteln wir Ihnen folgende Dokumente:

Abnahmeprüfzeugnisse: 1 - fach
Zeichnungen:
Betriebs- u. Wartungsanleitung:
Sonstiges:

Bemerkung:

Beleg-Nr. record no. 1
Blatt sheet 1 von of 9

Mit freundlichen Grüßen

ARMATUREN VERTRIEB ALMS GMBH

- Dokumentationsabteilung -

ZGN1000022173000000
312411.10.8730 / 200259732 / 0010

4004683 / 00010 / 200259732
Absperrschieber CL800
312411.10.8730 / 200259732 / 0010
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000221730 00 000

Customer / Kunde	MAN Turbomaschinen AG
Your Order / Ihre Bestellung	B58/4004683 312411.10.8730
Your Item. No./ Ihre Pos. Nr.	
Kontierung	
Quantity / Stück	6
Supplier/ Lieferant	ARMATUREN VERTRIEB ALMS GMBH
Our Ref. / Unser Auftrag	KA 7113850
Our Item / Unsere Pos.	1
Our Article Code / Unsere Artikel-Nr.	1B00622

Beleg-Nr. record no. 1
Blatt sheet 2 von of 9

MAN TURBO
TQB
11. MRZ. 2005
APPROVED

B.F.E. S.P.A.
BONNEY FORGE VALVE LICENSEE

SEDE LEGALE
via A.Volta, n°4
39100 Bolzano (ITALY)

HEAD OFFICE-FORGED VALVE PLANT
Via Tanaia 70/A - 24061 Albano S. Alessandro (BG) Italy
Phone 035.584.111 (16 lines r.a.)
Telefax 035.583022

TEST CERTIFICATE
(DECLARATION OF CONFORMITY)

NUMBER 6666/04 | REVISION | Page 1 of 3

CUSTOMER | CODE 3945

ARMATUREN VERTRIEB ALMS GMBH
HOLTERKAMP 1
D-40880 RATINGEN
GERMANY

YOUR PURCHASE ORDER N. 17266/SL | DATE 24/02/2004 | PARTIAL ORDER | X BALANCE ORDER

OUR JOB N 040398 | REMARKS.

X API 598 | BS 6755 | X EN 10204 3.1B

ITEM	QTY	PART N.	DESCRIPTION	PSI HYDROSTATIC SHELL	TEST HYDROSTATIC SEATS	BAR PNEUM SEATS (X)	COMPONENT / HEAT CODE MATERIAL / HEAT NR SUPPLIER	CHEMICAL ANALYSIS %	%	%	%	%	%	%	%	%	%	%
								MECHANICAL PROPERTIES										
								TENSILE N/mm2	YELD N/mm2	ELONGATION %	RED.OF AREA %	IMPACT TEST 1 JOULE	2 JOULE	3 JOULE	TEST TEMP °C	HARDNESS HB	HB	C.E.
2	15	191639		210	150	6	BODY	C	MN	SI	P	S	CR	NI	TI	AL	V	NB
		GATE VALVE OS&Y BB RB					ASF 1.0460	0,180	0,800	0,210	0,020	0,015	0,120	0,060	0,010	0,020	0,015	0,002
		HL 103A/F.B SCH.80 F.BSCH.80					73768 RIVA	526,00	330,00	28,60		68,00	50,00	53,00	+20	165,00		
		1/2" 1.0460/CR13/CR13* -MAX22HRC- 800LBS					BONNET	C	MN	SI	P	S	CR	NI	TI	AL	V	NB <
							AVA 1.0460	0,185	0,770	0,220	0,011	0,014	0,070	0,060	0,014	0,021	0,002	0,001
		1B00622					77243 RIVA	500,00	337,00	34,00	65,10	83,00	100,00	93,00	-10	160,00		
							STEM											
																205,00		
							WEDGE											
																152,00		
							SEAT											
																210,00		
									STANDARD MATERIAL SPECIFICATION									
									**********	**********	**********	**********	**					
								C	MN	P	S	SI	NI	CR	V	AL	TI	NB
							1.0460 MIN.	0,180	0,300							0,015		
							MAX.	0,230	0,900	0,025	0,015	0,400	0,300	0,300	0,020	0,050	0,030	0,010
							MIN.	410,00	250,00	25,00		47,00			+20			
							MAX.	540,00										

APPROVED 11. MRZ. 2005 MAN TURBO TQB

Beleg-Nr. record no. Blatt sheet 3 von of 9

- VISUAL DIMENSIONAL EXAMINATION HAS BEEN CARRIED

TEST RESULT
hydrostatic and
pneumatic test: SATISFACTORY

date | third | authority | date | client | inspector | INSPECTION DEPT. B.F.E. S.P.A. BONNEY FORGE VALVE LICENSEE Q/A DEPT. E. AZOLA | date 04/11/04

B.F.E. S.P.A.
BONNEY FORGE VALVE LICENSEE

SEDE LEGALE
via A. Volta, n°4
39100 Bolzano (ITALY)

HEAD OFFICE - FORGED VALVE PLANT
Via Tonale 70/A - 24061 Albano S. Alessandro (BG) Italy
Phone 035.584.111 (10 lines r.a.)
Telefax 035.583022

TEST CERTIFICATE
(DECLARATION OF CONFORMITY)

NUMBER 6666/04 | REVISION | Page 2 of 3

CUSTOMER code 3945

ARMATUREN VERTRIEB ALMS GMBH
HOLTERKAMP 1
D-40880 RATINGEN
GERMANY

YOUR PURCHASE ORDER N: 17266/SL

DATE: 24/02/2004

PARTIAL ORDER: [ ] BALANCE ORDER: [X]

OUR JOB N: 040398

REMARKS

[X] API 598 [ ] BS 6755 [X] EN 10204 3.1B

ITEM	QTY	PART N.	DESCRIPTION
			OUT WITH SATISFACTORY RESULT.
			- TRIM MATERIAL (WEDGE-SEAT-STEM) AND BOLTING ARE ACCORDING TO THE P.O. AND MATERIAL SPECIFICATIONS.
			- TUV APPROVAL IN ACCORDANCE WITH AD-2000 WO/HP0.
			- VALVES TESTED ACCORDING TO: TEST P10-P11-P12 ACCORDING TO EN12266-1 P20-P21 ACCORDING TO EN12266-2
			- VALVES ACCORDING TO AD2000 A4.
			- BOLTING ACCORDING TO AD2000 W7 AND DIN 267.
			- 1.0460 MATERIAL HAS BEEN NORMALIZED: TEMP. 900°C AND COOLING IN STILL AIR, ACCORDING TO DIN 17243.
			- 1.0460 MATERIAL IS IN ACCORDING TO DIN EN 10222-2 AND AD 2000 W13 SIMILAR TO ASTM A105.
			- VALVES MATERIALS ACCORDING TO NACE MR.0175 ED. 2002, NACE MR0103.
			EC DECLARATION OF CONFORMITY

TEST (PSI / BAR)	HYDROSTATIC SHELL	HYDROSTATIC SEATS	PNEUM SEATS	COMPONENT HEAT CODE MATERIAL HEAT NR SUPPLIER	CHEMICAL ANALYSIS %	%	%	%	%	%	%	%	%	%	%
			X												

MECHANICAL PROPERTIES	TENSILE N/mm2	YELD N/mm2	ELONGATION %	RED.OF AREA %	IMPACT TEST 1 JOULE	2 JOULE	3 JOULE	TEST TEMP °C	HARDNESS HB	HB	C.E.

TEST RESULT
hydrostatic and pneumatic test: SATISFACTORY

date | third authority | date | client inspector | INSPECTION DEPT. B.F.E. BONNEY FORGE VALVE LICENSEE QAC DEPT. E. | date 04/11/04

MAN TURBO TQB
APPROVED 11. MRZ. 2005

Beleg-Nr. record no. Blatt sheet 6 von of 6

B.F.E. S.P.A.
BONNEY FORGE VALVE LICENSEE

SEDE LEGALE
via A.Volta, n°4
39100 Bolzano (ITALY)

HEAD OFFICE-FORGED VALVE PLANT
Via Tonale 70/A - 24061 Albano S. Alessandro (BG) Italy
Phone 035.594.111 (10 lines r.a.)
Telefax 035.583022

TEST CERTIFICATE
(DECLARATION OF CONFORMITY)

NUMBER 6666/04 | REVISION

CUSTOMER CODE 3945

ARMATUREN VERTRIEB ALMS GMBH
HOLTERKAMP 1
D-40880 RATINGEN
GERMANY

YOUR PURCHASE ORDER N. 17266/SL

DATE 24/02/2004

PARTIAL ORDER
X BALANCE ORDER

OUR JOB N 040398

REMARKS

X API 598
BS 6755

X EN 10204 3.1B

MATERIAL TESTED

ITEM	QTY	PART N.	DESCRIPTION
			B.F.E. SPA,VIA TONALE 70/A,ALBANO S.A.(BG) ITALY DECLARE THAT UNDER OUR SOLE RESPONSIBILITY THAT THE PRODUCTS DETAILED ABOVE HAS BEEN MANUFACTURED ACCORDING TO SOUND ENGINEERING PRACTICE IN AN ENVIRONMENT ASSESSED AND CERTIFIED TO MODULE H OF THE PRESSURE EQUIPMENT DIRECTIVE 97/23/CE, AND MEETS THE REQUIREMENTS OF THE PED ACCORDING TO ARTICLE 3 PARAGRAPH 3.

SIGNED.....

PRINT NAME : M. SARTORI
TITLE : GENERAL MANAGER

APPROVED
11. MRZ. 2005
MAN TURBO TQB

Beleg-Nr. record no.
Blatt sheet 1 von of 6

TEST	PSI	BAR
		X

HYDROSTATIC SHELL	HYDROSTATIC SEATS	PNEUM SEATS	COMPONENT HEAT CODE MATERIAL HEAT NR SUPPLIER	CHEMICAL ANALYSIS %	%	%	%	%	%	%	%	%	%	%
				MECHANICAL PROPERTIES										
				TENSILE N/mm2	YELD N/mm2	ELONGATION %	RED.OF AREA %	IMPACT TEST 1 JOULE	2 JOULE	3 JOULE	TEST TEMP °C	HARDNESS HB	HB	C.E.

TEST RESULT
hydrostatic and
pneumatic test: SATISFACTORY

date | third | authority | date | client | inspector

INSPECTION DEPT.
B.F.E. S.P.A.
BONNEY FORGE VALVE LICENSEE
QA/QC DEPT.
E. Nizzola

date 04/11/04

B.F.E. S.P.A.
BONNEY FORGE VALVE LICENSEE

SEDE LEGALE
via A.Volta, n°4
39100 Bolzano (ITALY)

HEAD OFFICE - FORGED VALVE PLANT
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Phone 035.524.111 (18 lines r.a.)
Telefax 035.540082

TEST CERTIFICATE
(DECLARATION OF CONFORMITY)

NUMBER 4458/04 | REVISION | Page 1

CODE 3945

CUSTOMER

ARMATUREN VERTRIEB ALMS GMBH
HOLTERKAMP 1
D-40880 RATINGEN
GERMANY

YOUR PURCHASE ORDER N. 17266/SL

DATE 24/02/2004

X PARTIAL ORDER
BALANCE ORDER

X API 598
BS 6755

X EN 10204 3.1B

OUR JOB N 040398

REMARKS:

ITEM	QTY	PART N.	DESCRIPTION	PSI TEST HYDROSTATIC SHELL	SEATS	BAR X PNEUM SEATS	COMPONENT HEAT CODE MATERIAL HEAT NR SUPPLIER	CHEMICAL ANALYSIS %	%	%	%	%	%	%	%	%	%	%	MECHANICAL PROPERTIES TENSILE N/mm2	YELD N/mm2	ELONGATION %	RED.OF AREA %	IMPACT TEST 1 JOULE	2 JOULE	3 JOULE	TEST TEMP °C	HARDNESS HB	HB	C.E.
2	15	191639	GATE VALVE OS&Y BB RB	210	150	6	BONNET	C	MN	SI	P	S	CR	NI	TI	AL	V	NB
			HL 103A/F.B SCH.80 F.BSCH.80			X	ARS 1.0460	0,195	0,720	0,220	0,014	0,015	0,110	0,060	0,014	0,020	0,002	0,001
			1/2" 1.0460/CR13/CR13* -MAX22HRC- 800LBS				72382 RIVA	490,00	326,00	30,00		124,00	131,00	140,00	+20	165,00		
							BODY	C	MN	SI	P	S	CR	NI	TI	AL	V	NB
			1B00622			X	ART 1.0460	0,190	0,730	0,180	0,018	0,015	0,090	0,050	0,014	0,022	0,003	0,000
							79119 RIVA	481,00	326,00	28,30		63,00	68,00	47,00	+20	167,00		
							BODY	C	MN	SI	P	S	CR	NI	TI	AL	V	NB
						X	ASF 1.0460	0,180	0,800	0,210	0,020	0,015	0,120	0,060	0,010	0,020	0,015	0,002
							73768 RIVA	526,00	330,00	28,60		68,00	50,00	53,00	+20	164,00		
							STEM											
							.									210,00		
							WEDGE											
							.									171,00		
							SEAT											
							.									224,00		
4	15	191748	GATE VALVE OS&Y BB RB	385	285	6	BONNET	C	MN	SI	P	S	CR	NI	TI	AL	V	NB
			9HL 103A/F.B SCH.160 F.BSCH.16				ARS 1.0460	0,195	0,720	0,220	0,014	0,015	0,110	0,060	0,014	0,020	0,002	0,001
			1/2" 1.0460/CR13/CR13* -MAX22HRC- 1500LB				72382 RIVA	490,00	326,00	30,00		124,00	131,00	140,00	+20	168,00		
							BODY	C	MN	SI	P	S	CR	NI	TI	AL	V	NB
			1B00710				ART 1.0460	0,190	0,730	0,180	0,018	0,015	0,090	0,050	0,014	0,022	0,003	0,000
							79119 RIVA	481,00	326,00	28,30		63,00	68,00	47,00	+20	166,00		
							BODY	C	MN	SI	P	S	CR	NI	TI	AL	V	NB
							ASF 1.0460	0,180	0,800	0,210	0,020	0,015	0,120	0,060	0,010	0,020	0,015	0,002
							73768 RIVA	526,00	330,00	28,60		68,00	50,00	53,00	+20	166,00		
							STEM											
							.									209,00		

TEST RESULT
hydrostatic and
pneumatic test: SATISFACTORY

date third authority date client inspector

INSPECTION DEPT.
B.F.E.
BONNEY FORGE VALVE LICENSEE
QA/QC DEPT.
E. BOCCA

date 01/07/04

MAN TURBO TQB
11. MRZ. 2005
APPROVED

Beleg-Nr. / record no.
Blatt / sheet 9 von / of 9

B.F.E. S.p.A.
BONNEY FORGE VALVE LICENSEE

SEDE LEGALE
via A.Volta, n°4
39100 Bolzano (ITALY)

HEAD OFFICE - FORGED VALVE PLANT
Via Tonale 70/A - 24061 Albano S. Alessandro (BG) Italy
Phone 035.544.111 (18 lines r.a.)
Telefax 035.563082

TEST CERTIFICATE
(DECLARATION OF CONFORMITY)

NUMBER 4458/04 | REVISION | Page 2

CUSTOMER | CODE 3945

ARMATUREN VERTRIEB ALMS GMBH
HOLTERKAMP 1
D-40880 RATINGEN
GERMANY

YOUR PURCHASE ORDER N: 17266/SL

DATE: 24/02/2004

X PARTIAL ORDER
BALANCE ORDER

X API 598
BS 6755

X EN 10204 3.1B

OUR JOB N: 040398

REMARKS:

ITEM	QTY	PART N.	DESCRIPTION	PSI HYDROSTATIC SHELL	PSI HYDROSTATIC SEATS	BAR PNEUM SEATS (X)	COMPONENT / HEAT CODE MATERIAL / HEAT NR SUPPLIER	TENSILE N/mm2	YELD N/mm2	ELONGATION %	RED.OF AREA %	IMPACT TEST 1 JOULE	IMPACT TEST 2 JOULE	IMPACT TEST 3 JOULE	TEST TEMP °C	HARDNESS HB	HARDNESS HB	C.E.
								%	%	%	%	%	%	%	%	%	%	%
							WEDGE											
																165,00		
							SEAT											
																223,00		
7	15	194736		210	150		BODY	C	MN	SI	P	S	CR	NI	TI	AL	V	NB
							APZ 1.0460	0,195	0,740	0,220	0,015	0,015	0,090	0,050	0,014	0,022	0,003	0,000
							03/72381 RIVA	470,00	291,00	26,30		75,00	73,00	64,00	+20	168,00		
							BONNET	C	MN	SI	P	S	CR	NI	TI	AL	V	NB
							ARS 1.0460	0,195	0,720	0,220	0,014	0,015	0,110	0,060	0,014	0,020	0,002	0,001
							72382 RIVA	490,00	326,00	30,00		124,00	131,00	140,00	+20	165,00		
							SWING											
																171,00		
							SEAT											
																224,00		
									STANDARD MATERIAL SPECIFICATION									
									**********	**********	**********	**********	**					
								C	MN	P	S	SI	NI	CR	V	AL	TI	NB
							1.0460 MIN.	0,180	0,300							0,015		
							MAX.	0,230	0,900	0,025	0,015	0,400	0,300	0,300	0,020	0,050	0,030	0,010
							MIN.	410,00	250,00	25,00		47,00			+20			
							MAX.	540,00										

APPROVED
11. MRZ. 2005
MAN TURBO TQB

Beleg-Nr. record no. Blatt sheet 2 von of 2

TEST RESULT
hydrostatic and pneumatic test: SATISFACTORY

date | third | authority | date | client | inspector

INSPECTION DEPT. B.F.E. S.p.A. BONNEY FORGE VALVE LICENSEE QA/QC DEPT. E. Azzola

date 01/07/04

B.F.E. S.P.A.
BONNEY FORGE VALVE LICENSEE

SEDE LEGALE
via A.Volta, n°4
39100 Bolzano (ITALY)

HEAD OFFICE - FORGED VALVE PLANT
Via Tonale 70/A - 24061 Albano S. Alessandro (BG) Italy
Phone 035.584.111 (15 lines r.a.)
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TEST CERTIFICATE
(DECLARATION OF CONFORMITY)

NUMBER 4458/04 | REVISION | Page 3

CUSTOMER | CODE 3945

ARMATUREN VERTRIEB ALMS GMBH
HOLTERKAMP 1
D-40880 RATINGEN
GERMANY

YOUR PURCHASE ORDER N: 17266/SL

DATE: 24/02/2004

X PARTIAL ORDER
BALANCE ORDER

X API 598
BS 6755

X EN 10204 3.1B

OUR JOB N: 040398

REMARKS.

ITEM	QTY	PART N.	DESCRIPTION
			- VISUAL DIMENSIONAL EXAMINATION HAS BEEN CARRIED OUT WITH SATISFACTORY RESULT.
			- TRIM MATERIAL (DISK-SEAT-STEM) BOLTING ARE ACCORDING TO THE P.O. AND MATERIAL SPECIFICATIONS.
			- 1.0460 MATERIAL HAS BEEN NORMALIZED: TEMP. 900°C AND COOLING IN STILL AIR, ACCORDING TO DIN 17243.
			- 1.0460 MATERIAL IS IN ACCORDING TO DIN EN 10222-2 AND AD 2000 W13 SIMILAR TO ASTM A105.
			- TUV APPROVAL IN ACCORDANCE WITH AD-2000 WO/HP0.
			- VALVES ACCORDING TO AD2000 A4.
			TEST P10-P11-P12 ACCORDING TO EN12266-1 P20-P21 ACCORDING TO EN12266-2
			- VALVES CONFORM TO NACE STANDARD MR.01-75 LAST REVISION.
			TEST P10-P11-P12 ACCORDING TO EN12266-1

TEST (PSI / BAR): X BAR

HYDROSTATIC SHELL	HYDROSTATIC SEATS	PNEUM SEATS	COMPONENT HEAT CODE MATERIAL HEAT NR SUPPLIER	TENSILE N/mm2	YELD N/mm2	ELONGATION %	RED.OF AREA %	IMPACT TEST 1 JOULE	IMPACT TEST 2 JOULE	IMPACT TEST 3 JOULE	TEST TEMP °C	HARDNESS HB	HARDNESS HB	C.E.
				%	%	%	%	%	%	%	%	%	%	

CHEMICAL ANALYSIS

MECHANICAL PROPERTIES

APPROVED 11. MRZ. 2005 MAN TURBO TQB

TEST RESULT
hydrostatic and
pneumatic test: SATISFACTORY

Beleg-Nr. / record no. 1 Blatt / sheet 8 von / of 9

date | third | authority | date | client | inspector

INSPECTION DEPT. B.F.E. BONNEY FORGE VALVE LICENSEE QAC E. Nardo

date 01/07/04

B.F.E. S.P.A.
BONNEY FORGE VALVE LICENSEE

SEDE LEGALE
via A.Volta, n°4
39100 Bolzano (ITALY)

HEAD OFFICE-FORGED VALVE PLANT
Via Tonale 70/A - 24051 Albano S. Alessandro (BG) Italy
Phone 035.544.111 (16 lines r.a.)
Telefax 035.580085

TEST CERTIFICATE
(DECLARATION OF CONFORMITY)

NUMBER 4458/04 | REVISION | Page 4

CODE 3945

CUSTOMER

ARMATUREN VERTRIEB ALMS GMBH
HOLTERKAMP 1
D-40880 RATINGEN
GERMANY

YOUR PURCHASE ORDER N. 17266/SL

DATE 24/02/2004

X PARTIAL ORDER
BALANCE ORDER

X API 598
BS 6755

X EN 10204 3.1B

OUR JOB N 040398

REMARKS.

ITEM	QTY	PART N.	DESCRIPTION	PSI TEST BAR X HYDROSTATIC SHELL	SEATS	PNEUM SEATS	COMPONENT HEAT CODE MATERIAL HEAT NR SUPPLIER	CHEMICAL ANALYSIS %	%	%	%	%	%	%	%	%	%	%	MECHANICAL PROPERTIES TENSILE N/mm2	YELD N/mm2	ELONGATION %	RED.OF AREA %	IMPACT TEST 1 JOULE	2 JOULE	3 JOULE	TEST TEMP °C	HARDNESS HB	HB	C.E.
			- BOLTING ACCORDING TO AD2000 W7 AND DIN 267.																									

EC DECLARATION OF CONFORMITY

B.F.E. SPA,VIA TONALE 70/A,ALBANO S.A.(BG) ITALY DECLARE THAT UNDER OUR SOLE RESPONSIBILITY THAT THE PRODUCTS DETAILED ABOVE HAS BEEN MANUFACTURED ACCORDING TO SOUND ENGINEERING PRACTICE IN AN ENVIRONMENT ASSESSED AND CERTIFIED TO MODULE H OF THE PRESSURE EQUIPMENT DIRECTIVE 97/23/CE, AND MEETS THE REQUIREMENTS OF THE PED ACCORDING TO ARTICLE 3 PARAGRAPH 3.

SIGNED.....

PRINT NAME : M. SARTORI
TITLE : GENERAL MANAGER

Beleg-Nr. record no. 1
Blatt sheet 9 von of 9

MAN TURBO TQB
APPROVED
11. MRZ. 2005

TEST RESULT
hydrostatic and
pneumatic test: SATISFACTORY

date | third | authority | date | client | inspector

INSPECTION DEPT.
B.F.E. S.P.A.
BONNEY FORGE VALVE LICENSEE
QAQC
E. Rizzo

date
01/07/04

ALBERT GREIFENBERG GmbH & Co. KG

Flanschen und Bunde nach DIN und Sonderanfertigung

Stempel des Herstellers/Stamp of the manufacturer/Sigle du fournisseur

OBERHAUSEN

TÜV CERT DIN ISO 9002 Zertifikat: QA-239

Abnahmeprüfzeugnis nach Inspection certificate acc. to EN 10204 - Certificat de réception selon 3.1.

Besteller/Purchaser/Acheteur MAN TURBO AG

Kunden-Bestell-Nr./Client order no./No. de commande du client

Unsere Auftrags-Nr./Our works no./Notre no. de commande

LS: 2507776 Auftrag: 128871

Kennzeichnung: Firmenzeichen, Werkstoff, Schmelze, DN, PN marking/marque B25/4012414

Anforderungen: Requirements/Valeur demandés 1.4571 DIN 17440/ AD2000 W9/W2/W10

Seite: 1

Probenlage/Position of sample/Position de l'echantillon TANG.

Datum/Date: 19.05.2005

Position Item Position	Anzahl Quantity Quantité	Artikel-Bezeichnung/Article/Article: Probe Nr. Sample No. No. d'essai	Schmelze + E.-Art Heat Charge Nr./No. Melting furnace Mode de fusion	R_{eH} $R_{p0,2}$ $R_{p1,0}$ Y.P. N/mm²	R_m U.P. N/mm²	A Elongation %	Z R.o.A. %	Av Av	J J	Prüftemp. Test temp. Temp.d'ess. °C	Kerbform Notch Entaille	Erschmelzungsart und Analysen nach Angaben des Herstellers / Process and chemical composition in conformity with certificate of manufacturer. / Procès et composition chimique en conformité avec certificat du producteur. %
006	8		27-C-025-16-71 2527 PN16 C25 1.4571 DIN 17440 179116 E									
		50866		228 271	525	53	72	189	151 184	20	ISO-V	C 0,016 SI 0,570 MN 1,950 P 0,026 S 0,014 CR 16,720 Ti 0,170 Ni 12,280 Mo 2,030

APPROVED 1. AUG. 2005 MAN TURBO TQB

4012414 / 00060 / 200143498
Blindflansch Form C PN16
312411.10.8730 / 200143498 / 0040
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000230625 00 000

LÖSUNGSGEGLÜHT UND ABGESCHRECKT/SOLUTIONED AND QUENCHED 1050°C WASSER/WATER
SPEKTRALPRÜFUNG AUF WERKSTOFFVERWECHSLUNG AN 100%: OHNE BEANSTANDUNG
SPECTRAL ANALYSIS ON 100%:NO OBJECTIONS
IK-BESTÄNDIGKEIT NACH DIN EN ISO 3651-2 VERFAHREN A JE LOS: BESTÄNDIG
IC-RESISTANCE TO DIN EN ISO 3651-2 METHOD A OF EACH LOT: RESISTANT

Beleg-Nr. record no. 2 Blatt sheet 1 von of 1

ZGN1000023062500000
312411.10.8730 / 200143498 / 0040

Für/for/pour EN 10 204-3.1.B:
Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht.
We hereby certify, that the material described above has been tested and complies with the terms of the order contract.
Nous certifions que la livraison était vérifiée et est conforme aux stipulations de l'acception de la commande
Besichtigung und Ausmessung ohne Beanstandung
Visual inspection and dimensions satisfactory. Aucun défaut au point de vue aspect et de dimension.

Zertifiziert für Werkstoffhersteller nach Richtlinie 97/23/EG
Certified as material manufacturer to PED 97/23/EG
Certifions par la matière fabriquer DEP 97/23/EG
Anhang I. 4.3/Annex I, 4.3/Annexe I, 4.3
TÜV-CERT. Nr./No. Nº 0044

Verwaltung, Fertigteillager und Versand:
Office, Warehouse and Trafficdepartment:
Office, Magasin et Expédition:
Gottwaldstraße 17
45525 Hattingen
Telefon: 0 23 24/50 08-00
Telefax: 0 23 24/2 47 57

Betrieb:/Plant:/Usine: D Bochum-Linden, Deimketal 24, Industriegelände

E-Mail: info@albert-greifenberg.de
http://www.albert-greifenberg.de/

Der Werkssachverständige
Works inspector
L'expert d'usine

ALBERT GREIFENBER GmbH & Co. KG

ALBERT GREIFENBERG GmbH & Co.KG

Flanschen und Bunde nach DIN und Sonderanfertigung

TÜV CERT DIN EN ISO 9001 : 2000 QA-Nr.: 04100 20041171

Albert Greifenberg GmbH & Co. KG • Postfach 80 01 19 • 45523 Hattingen

MAN Turbomaschinen AG
Abt. CFD2
Postfach 11 02 40

46122 Oberhausen

Ihre Bestellung Your order Votre commande no.	vom from de	unser Zeichen our ref.	unsere Kom.-Nr. our Works-No. Notre réf.	Datum Date Date
B25/4012917	19.04.05	ML	128994	Donnerstag, 30. Juni 2005

Werksbescheinigung
DIN 50 049 / EN 10204
Certificate of compliance with the order
Attestation de conformité à la commande

Pos. Item Poste	Stück Piece Nombre	Benennung und Abmessung Name and Dimension Dénomination et Mesure	Werkstoff Material Matériel	Schmelze Heat-no. Charge
3	1	2633 PN16 80/88,9	C22.8	33346
		ZGN1000023639700000 312411.10.8730 / 200192039 / 0020	4012917 / 00030 / 200192039 Flansch C 312411.10.8730 / 200192039 / 0020 D: Abnahmeprüfzeugnis - 3.1 B / EN 10204 ZGN 10000236397 00 000	

MAN TURBO
TO
1. AUG. 2005
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Werte lt. beiliegendem Originalzeugnis
Results acc. to annexed original-certificate
Valeurs ci-inclus original certificat
Besichtigung und Ausmessung: ohne Beanstandung
Visual inspect. and dimensions satisfactory
Aucun défaut au point de vue aspect et dimension

Zertifiziert als Werkstoffhersteller nach Richtlinie 97/23/EG
Certified as material manufacturer to PED 97/23/EG
Certifions par la matière fabriquer DEP 97/23/EG
AnhangI, 4.3/AnnexI, 4.3/AnnexeI, 4.3
TÜV-CERT Nr./No./N°: 0044

Albert Greifenberg GmbH & Co. KG
Der Werkssachverständige
Head of the Inspection Departement/L'expert d-usine

- Engelhardt -

Diese Werksbescheinigung wurde mittels Datenverarbeitung erstellt und ist auch ohne Unterschrift gültig.
This certificate of compliance with the order was written by data-system and is also valid without signature.
Cette attestation de conformité à la commande était ecrit au moyen de traitement de l'information et est aussi valable sans signature.

Beleg-Nr. record no. 3
Blatt sheet 1 von of 2

E-Mail: m.loeb@albert-greifenberg.de
http://www.albert-greifenberg.de/

Abnahmeprüfzeugnis Nr. 20411525.02
Test report/inspection Certificate N°
Nach DIN EN 10204 - 3.1.B
ling

WILHELM GELDBACH
Piping Equipment
Wilhelm Geldbach Piping Equipment GmbH
Amtsstraße 4 D - 31552 Rodenberg
Telefon +49 (0) 5723 / 7407 - 0
Telefax +49 (0) 5723 / 7407 - 22
EMail info@geldbach.com
USt ID-Nr.: DE 811 709 775

TÜV CERT DIN EN ISO 9001:2000

Albert Greifenberg GmbH & Co KG
Flansche & Bunde
Gottwaldstr. 17
45525 Hattingen

Datum: 26.11.2004

Ihre Auftrags - Nr. 47508F Your order - n°	**Rechnungs - Nr. 20411525** Invoice - n°	**Lieferdatum 26.11.2004** Delivery date

Kennzeichnung Marking:	**Zeichen des Herstellers** Manufacturers mark	**Zeichen des Werksachverständigen** Inspectors stamp

Bezeichnung Designation of article	**Werkstoff** Material	**Prüfgrundlagen / Anforderungen** Requirements	**Lief.-zust.** Del. cond.	**Erschm.** Melting proc.
DIN 2633 PN16	C 22.8	DIN17243, VdTÜV - WB 350/3; DIN2470-1;	+N	SM
,0/88,9	1.0460	DIN2528/ AD2000-W9, W13/ TRD107;TRB100		

Pos.Nr. Item n°	**Menge** Quantity	**Abmessung** Dimension	**Schmelze Nr.** Heat n°	**Code - No.**	**Probe - Nr.** Test n°			
2	2159	DN 80/88,9	33346	B	2.1	2.2	2.3	2.4

Schmelzanalyse / Heat analysis

Schmelze Nr. Heat n°	**C** %	**Si** %	**Mn** %	**P** %	**S** %	**Cr** %	**Mo** %	**Ni** %	**Al** %	**Ti** %	**N** %	**Cu** %	**V** %	**Nb** %
33346	0,220	0,220	0,500	0,011	0,016	0,110			0,021					

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1. AUG. 2005
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Mechanische Prüfungen / Mechanical tests

Zugversuch DIN EN 10002 - 1; Probenform Anhang C / tensile test
Kerbschlagversuch DIN EN 10045; ISO - V - Probe / impact test
Härteprüfung nach Brinell DIN EN 10003-1; HBW 2,5:187,5 / Brinell hardness test
Prüftemperatur: RT °C test temp./ CEV=C%+Mn%/6=0,30% by

Probe - Nr. Test n°	**Proben-lage** Direction	**Streckgrenze** Yield strength R_e		**Zugfestigkeit** Tensile strength R_m	**Dehnung** Elongation A	**Einschn.** Reduct of area Z	**Schlagarbeit** Energie of impact				**Härteprüfung** Hardness
		R_p 1% N/mm²	R_{eh} / R_p 0,2% N/mm²	N/mm²	Lo=5do %	%	J 1	2	3	Σ /n	HBW
2.1	t		300	490	26,0		56	62	60	59	131 - 143
2.2	t		305	490	30,0		58	64	63	62	
2.3	t		315	480	32,0		54	58	56	56	
2.4	t		305	500	34,0		57	59	60	59	

Weitere Prüfungen / Additional tests

Maß- und Sichtprüfung / surface and dimensional inspection	ohne Beanstandungen
IK Test gem. DIN 50914 / testing the resistance of stainless steels to intergranular corrosion	-
Prüfung auf Werkstoffverwechselung / testing for material discrepancies	-

Beleg-Nr. record no. 3
Blatt sheet 2 von of 2

Die gestellten Anforderungen sind erfüllt. Der Werksachverständige
The requirements are fullfilled

A. Bartschlaeli

Überprüft nach AD 2000 - Merkblatt W0/TRD 100 durch den TÜV Hannover/Sachsen-Anhalt e.V. mit Verzicht auf Gegenzeichnung. tifiziert nach Druckgeräte-Richtlinie (97/23/EG) durch die TÜV CERT - Zertifizierungsstelle für Druckgeräte der / NORD GRUPPE; benannte Stelle, Kenn-Nr. 0045

Approved acc. to AD 2000 - Merkblatt W0/TRD 100 by TÜV Hannover/Sachsen-Anhalt e.V. with renounce of countersignment. Certified acc. to Pressure Equipment Directive (97/23/EG) by TÜV CERT - Certification body for pressure equipment of the TÜV NORD GRUPPE; notified body, reg.-no. 0045

Abnahmeprüfzeugnis

Inspection Certificate,Procès-Verbal
nach EN 10204 (DIN 50049) -3.1B

Bopp & Reuther
Sicherheits- und Regelarmaturen

Einstellen von Sicherheitsventilen

Adjustment of Safety Valves
Tarage des Soupapes de Sûrete

Projekt,project,projet

Besteller,customer,client
Man Turbomaschinen AG,
Berlin

Lieferung,product,livraison
1 Sicherheitsventil
Safety valve

Hersteller,manufacturer,fabricant
Bopp & Reuther Sicherheits- und
Regelarmaturen GmbH

Werks-Nr.,workshop no.,no de fabricant
920 98853-10

Bestell-Nr.,order-no.,no.de commande
B58/4011242

Baumuster-Nr.,type approval no.,no.d'agrément
00-209.50.D/G/F.0,25.8,0

Serien-Nr. Serial-no./ no.de fabrication
98853-10

Angaben zum Prüfgegenstand,description of test item,données de la pièce d'essai

lfd-Nr.: running-no. no. contenue	Teile Nr. item-no Repére	Typ type	DN Eintritt/Austritt inlet/outlet Entree/Sortie	PN Eintritt/Austritt inlet/outlet Entree/Sortie	Einstell-überdruck setpressure (g) pression de tarage (bar)	Gewindehöhe visible thread length longueur du filet visible (mm)	Gegen-mutter counter nut contre-écrou (mm)
1		Si 2502 GA-GS	80x80	40x10	8,0	22,6	8,0

Die Einstellung erfolgte mit Luft
Adjustment was performed with compressed air/ le reglage a été effectué à l' air

Kontrolle auf Dichtheit des Sitzes: keine Beanstandung
Check for seat tightness: without objection /Contrôle de l'étancheité au siége ne donnait lieu à aucune remarque

Kennzeichnung: Der Austrittsflansch bzw.Anschlußsechskant wurde mit der Werks-Nr.gekennzeichnet
Marking: The outlet flange resp. connection hexagon has been marked with the serial-no. /Marquage: La bride de sortie ou raccord à six pans fut marquée avec le no.de fabrication

Gewährleistung: Der Hersteller bescheinigt durch Kenzeichnung mit dem Werksabnahme-Stempel SRQ die Art und Güteeigenschaften der verwendeten Werkstoffe, die werkstoffgerechte und den Regeln der Technik entsprechende Verarbeitung sowie die Durchführung der vorgeschriebenen Druckprüfungen (entsprechend AD-2000 Merkblätter A2/A4).Guarantee:The manufacturer certifies by marking with the works inspection stamp the type and quality of materials used; their correct processing according to technical regulation and also the performance ot the pre-specified pressure tests (as per "AD-2000 Merkblätter A2/A4")/Garantie:Le fabricant garantit par marquage avec le tampon de réception d'usine le type et les caractéristiques des materiaux utilises, l'usinage, adapté aux matériau selon les règles de la technique,ainsi que l'exécution des épreuves de pression exigées (selon AD-2000 Merkblätter A2/A4).

Die Druckprobe wurde mit Wasser und einem Prüfdruck gemäß folgender Tabelle durchgeführt:
The hydrostatic pressure test was carried out with water and a test pressure acc. to the following table.

PN Eintritt/inlet/ entree	Prüfdruck Eintritt/testpressure inlet/ entree (bar)	PN Austritt / outlet/ sortie	Prüfdruck Austritt/testpressure outlet/ sortie (bar)
40	60W	10	15W

W= Wasser, water, eau

Werkstoffzeugnisse/material certificate:

Ventilnummer valve no./no. de Soupapes	Bauteil par Soupapes	Werkstoff material	Schmelze Nr. melt no.	Proben Nr. sample no.	Modell/Ident-Nr. pattern/identification no.
1	Gehäuse/body/Corps	1.0619	14159		70445

Beleg-Nr. record no 6
Blatt sheet 1 von of 3

Die Prüfungen ergaben keine Beanstandung/The tests where without objection

Prüfort,location of test,lieu d'épreuve
Mannheim

Prüfdatum,test date,date d'essai
24.05.2005

Prüfer,inspector,opérateur
Schwind

SRQ 11

Datum,date 25.05.2005/bü

Werksachverständige
Works Inspector

MAN TURBO
TQB
1. AUG. 2005
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Bopp & Reuther
Sicherheits- und Regelarmaturen

Declaration of Conformity / Konformitätserklärung

according to the pressure equipment directive 97/ 23/EC
nach Druckgeräterichtlinie 97/23/EG

name and adress of the manufacturer:
Name und Anschrift des Herstellers:

Bopp & Reuther Sicherheits- und Regelarmaturen GmbH
Carl - Reuther - Str.1
D-68305 Mannheim / Germany

description of the pressure equipment c.s.p.r.s./ Beschreibung des Druckgerätes Gesteuertes Sicherheitsventil:

Bezeichnung Type	TÜV-SV	Seat / Sitz [mm]	EC type-examination no / EG Bauteilprüfnummer
Sicherheitsventil SiZ 2507 / Si 61/63 06	- 138	32 - 400	DDB-MAN 02-07-5150434-009
Sicherheitsventil Si 41 xx / 43 xx / 44 xx	- 1094	8 - 156	DDB-MAN 04-10-15150434-014
Sicherheitsventil Si 61/63 0x	- 155	12 - 280	DDB-MAN 02-03-5150434-004
Sicherheitsventil Si 81/ 83/ 84 xx	- 1006	13,6 - 156	FDB-MAN 01-12-5150434-002
pneum. Steuergerät PC 50 xx	- 1053	-	04 202 3 013 01 00003
pneum. Steuergerät PC 52/53/54	- 786	-	04 202 3 013 01 00004
el. pneum. Steuergerät EPC 5400	- 1074	-	04 202 3 013 01 00002
el. pneum. Steuergerät SiZ 5400	- 544	-	04 202 3 013 01 00005
hydr. Steuerung RVD & RVV	- 908	-	04 202 3 013 01 00006

applied category / angewandte Kategorie: Categorie IV

applied conformity assessment procedure / angewandtes Konformitätsbewertungsverfahren:

module / Modul	Conformity assessment procedures / Konformitätsbewertungsverfahren	Certificate number / Zertifikat Nummer
B	EC type-examination / EG Baumusterprüfung	see table / siehe Tabelle
D	production quality assurance / Qualitätssicherung Produktion	DGR-0036-QS-140-01

notified body monitoring the manufacturer's QS /
benannte Stelle zur Überwachung des QS des Herstellers:

TÜV Industrieservice GmbH - TÜV SÜD Gruppe
Dudenstr. 28
D-68167 Mannheim / Germany
ID no: 0036

applied harmonized standards: / angewandte harmonisierte Normen:
DIN EN ISO 4126-1, DIN EN ISO 4126-5

Beleg-Nr. record no. 4
Blatt sheet 2 von of 3

Other applied standards or technical rules / andere angewandte Normen oder technische Richtlinien:
AD 2000 - Regelwerk, VdTÜV- Merkblatt Sicherheitsventil 100, TRB 403, TRD 421, TRD 721, DIN EN 12516-2 (Ersatz für DIN 3840)

The signing manufacturer declares that the design, manufacturing and inspection of these pressure equipments meet the requirements of the Pressure Equipment Directive (PED). /
Der unterzeichnende Hersteller erklärt hiermit, daß Konstruktion, Herstellung und Prüfung dieser Druckgeräte den Anforderungen der Druckgeräterichtlinie (DGRL) entsprechen.

Bopp & Reuther
Sicherheits- und Regelarmaturen
Bopp & Reuther Sicherheits- und Regelarmaturen GmbH
Postfach 31 01 08
D-68281 Mannheim

MAN TURBO
TOR
1. AUG. 2005
APPROVED

29.10.04
Date

manufacturer stamp

Dr. Bernhard Föllmer
Konstruktion / Entwicklung (SRE)

Klaus Hoffmann
Qualitätswesen (SRQ)

Abnahmeprüfzeugnis

nach DIN EN 10204 - 3.1 B

Keßler & Co GmbH Leipzig
Gießereierzeugnisse
Gerhard-Ellrodt-Str. 24, 04249 Leipzig
Tel.: 0341/41529 - 10 Fax: 0341/41529-12

Besteller Bopp & Reuther SR GmbH
Purchaser 68305 Mannheim

Auftrags-Nr. 071/45035447 vom 09.04.2003
Order-No.

Zeugnis-Nr. 20030827

Erzeugnisform
Product

Gehäuse DN 80 WST. 1.0619 + N
Mod.: 70445 23,5 kg

Ort / Datum Leipzig, den 12.06.2003
Place / Date

Versanddatum 11.06.2003
Dispatch date

Gesamtmenge: 5
Quantity

Lieferzustand normalisiert
As delivered normalized

Chemische Zusammensetzung / Chemical Composition %

Schmelzen-Nr. Heat-No.		C% (Al%)	Si% (Cu%)	Mn% (V%)	P% (Ti%)	S% (Co%)	Cr% (N%)	Mo% (Mg%)	Ni%	Nb%	Fe%
Soll	min	0,18		0,5							
	max	0,23	0,6	1,2	0,03	0,02	0,3	0,12	0,4		
	(max)		(0,3)	(0,03)							
Ist	1/4159	0,18	0,55	0,75	0,016	0,015	0,2	0,02	0,06		
	( )		(0,02)	(0,005)							
	( )										
	( )										

Mechanische Eigenschaften / Mechanical Properties

Schmelzen-Nr. Heat-No.		Rp 1,0 N/mm²	Streckgrenze Yield stress Rp 0,2 N/mm²	Zugfestigkeit Tensil strenght N/mm²	Bruchdehnung Elongation %	Brucheinschnürung Reduction of area %	Härte Hartness HB am Teil	Kerbschlagarbeit Impact energy Form / ISO-V-Probe Type Joule
Soll	min		240	420	22			27
	max			600				
Ist	1/4159							

Beleg-Nr.: record no. 4
Blatt sheet 3 von of 3

MAN TURBO
7 AUG. 2005
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Bemerkungen
Remarks
Prüfung : MS3 - RV3 (WZ 2.2) ; Serienteile
WST nach WPB 0-35-09839.4/J; induktiv erschmolzen
m.-t. Werte werden nachgereicht

Keßler & Co GmbH Leipzig
Gießereierzeugnisse
Gerhard-Ellrodt-Str. 24 · 04249 Leipzig
Tel. 0341/41529-0 · Fax 0341/ 41529-12
internet: www.kesslergruppe.de

Werksachverständiger / Works inspektor

Das Erzeugnis entspricht den Fertigungsvorschriften
und den zusätzlichen Vereinbarungen des Vertrages
The product is in accordance with the standard and additional arrangements in the contract.

MAN	PIPING BOOK					CODE WORD	KOSBOOST	Rev. Line ↓
	PIPING No.	201_CW_IN_HEADER	ISO No.	10000234335	Rev 02	ORDER-NO	312410	
						PSP - ELEMENT	8730	

PIPING No.	201_CW_IN_HEADER	ISO No.	10000234335	Rev	00

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	168,3 x 4,5	DIN 2448	St 35.8/I	447468	83872255/01	01	00
02	Pipe seamless	33,7x2,6	DIN 2448	St 35.8/I	30870K	83371135/02	02	00
03	Reducer concentric	323,9x7,1/168,3x4,5	DIN 2616-T2	St 35.8/I	226722	87224765/03	03	00
04	Threadolet	G ¾"	DETAIL 1	C22.8	119938	87280905/04	04	00
05	Threadolet	G ½"	DETAIL 2	C22.8	130849	87119852/05	05	00
06	Weld Neck Flange	DN300/323,9x7,1	DIN 2632	C22.8	34161	84041841/06	06	00
07	Weld Neck Flange	DN150/168,3x4,5	DIN 2633	C22.8	35474	87140486/07	07	00
08	Weld Neck Flange	DN80/88,9x3,2	DIN 2635	C22.8	32354	83317293/08	08	00
09	Weld Neck Flange	DN25/33,7x2,6	DIN 2633	C22.8	71550	84046433/09	09	00
10	Blind Flange PN16	DN25	DIN 2527	C22.8	4304592	87216535/10	10	00

ZGN1000023909000000
312411.10.8730 / 200357796 / 0010

4005496 / 00230 / 200357796
Rohrstrecke 201A
312411.10.8730 / 200357796 / 0010
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239090 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

REVISION	NAME	DATE	CHECKED	DATE	SUPPLIER	DOCUMENT NO:	SHEET
00	Bellersen	31.05.05			rff Rohr Flansch Fitting Handels GmbH	100002232735	1/1

PIPING BOOK

PIPING No.	201_CW_IN_HEADER	ISO No.	10000234335	Rev	02	CODE WORD	KOSBOOST
						ORDER-NO	312410
						PSP - ELEMENT	8730

Rev. Line

PIPING No.	201_CW_IN_HEADER	ISO No.	10000234335	Rev	00

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	168,3 x 4,5	DIN 2448	St 35.8/I	447468	83872255/01	01	00
02	Pipe seamless	33,7x2,6	DIN 2448	St 35.8/I	30870K	83371135/02	02	00
03	Reducer concentric	323,9x7,1/168,3x4,5	DIN 2616-T2	St 35.8/I	226722	87224765/03	03	00
04	Threadolet	G ¾"	DETAIL 1	C22.8	119938	87280905/04	04	00
05	Threadolet	G ½"	DETAIL 2	C22.8	130849	87119852/05	05	00
06	Weld Neck Flange	DN300/323,9x7,1	DIN 2632	C22.8	34161	84041841/06	06	00
07	Weld Neck Flange	DN150/168,3x4,5	DIN 2633	C22.8	35474	87140486/07	07	00
08	Weld Neck Flange	DN80/88,9x3,2	DIN 2635	C22.8	32354	83317293/08	08	00
09	Weld Neck Flange	DN25/33,7x2,6	DIN 2633	C22.8	71550	84046433/09	09	00
10	Blind Flange PN16	DN25	DIN 2527	C22.8	4304592	87216535/10	10	00

ZGN100002390910000 0
312411.10.8730 / 200357797 / 0020

4005496 / 00240 / 200357797
Rohrstrecke 201B
312411.10.8730 / 200357797 / 0020
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239091 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

REVISION	NAME	DATE	CHECKED	DATE	SUPPLIER	DOCUMENT NO:	SHEET
00	Bellersen	31.05.05			rff Rohr Flansch Fitting Handels GmbH	100002232735	1/1

PING BOOK

PIPING No.	202_CW-OUT-HEADER	ISO No.	10000234336	Rev	01	CODE WORD	KOSBOOST	Rev. Line ↓
						ORDER-NO	312410	
						PSP - ELEMENT	8730	

PIPING No.	202_CW_OUT_HEADER	ISO No.	10000234336	Rev	00

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	323,9 x 7,1	DIN 2448	St 35.8/I	243447	83974043/01	01	00
02	Pipe seamless	168,3 x 4,5	DIN 2448	St 35.8/I	447468	83872255/02	02	00
03	Pipe seamless	33,7x2,6	DIN 2448	St 35.8/I	30870K	83371135/03	03	00
04	Reducer concentric	323,9x7,1/168,3x4,5	DIN 2616-T2	St 35.8/I	226722	87224765/04	04	00
05	Threadolet	G ½"	DETAIL 2	C22.8	130849	87119852/05	05	00
06	Weld Neck Flange	DN300/323,9x7,1	DIN 2632	C22.8	34161	84041841/06	06	00
07	Weld Neck Flange	DN150/168,3x4,5	DIN 2633	C22.8	35474	87140486/07	07	00
08	Weld Neck Flange	DN25/33,7x2,6	DIN 2633	C22.8	71550	84046433/08	08	00
09	Blind Flange PN16	DN 25	DIN 2527	C22.8	7330	83333276/09	09	00

ZGN1000023909200000
312411.10.8730 / 200357798 / 0030

4005496 / 00250 / 200357798
Rohrstrecke 202A
312411.10.8730 / 200357798 / 0030
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239092 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

REVISION	NAME	DATE	CHECKED	DATE	SUPPLIER	DOCUMENT NO:	SHEET
00	Bellersen	31.05.05			rff Rohr Flansch Fitting Handels GmbH	100002232735	1/1

PIPING BOOK

PIPING No.	202_CW-OUT-HEADER	ISO No.	10000234336	Rev	01	CODE WORD	KOSBOOST
						ORDER-NO	312410
						PSP - ELEMENT	8730

Rev. Line

PIPING No.	202_CW_OUT_HEADER	ISO No.	10000234336	Rev	00

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	323,9 x 7,1	DIN 2448	St 35.8/I	243447	83974043/01	01	00
02	Pipe seamless	168,3 x 4,5	DIN 2448	St 35.8/I	447468	83872255/02	02	00
03	Pipe seamless	33,7x2,6	DIN 2448	St 35.8/I	30870K	83371135/03	03	00
04	Reducer concentric	323,9x7,1/168,3x4,5	DIN 2616-T2	St 35.8/I	226722	87224765/04	04	00
05	Threadolet	G ½"	DETAIL 2	C22.8	130849	87119852/05	05	00
06	Weld Neck Flange	DN300/323,9x7,1	DIN 2632	C22.8	34161	84041841/06	06	00
07	Weld Neck Flange	DN150/168,3x4,5	DIN 2633	C22.8	35474	87140486/07	07	00
08	Weld Neck Flange	DN25/33,7x2,6	DIN 2633	C22.8	71550	84046433/08	08	00
09	Blind Flange PN16	DN 25	DIN 2527	C22.8	7330	83333276/09	09	00

ZGN1000023909300000
312411.10.8730 / 200357799 / 0040

4005496 / 00260 / 200357799
Rohrstrecke 202B
312411.10.8730 / 200357799 / 0040
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239093 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

REVISION	NAME	DATE	CHECKED	DATE	SUPPLIER	DOCUMENT NO:	SHEET
00	Bellersen	31.05.05			rff Rohr Flansch Fitting Handels GmbH	100002232735	1/1

PING BOOK

PIPING No.		ISO No.		Rev	

CODE WORD	KOSBOOST
ORDER-NO	312410
PSP - ELEMENT	8730

Rev. Line ↓

PIPING No.	203_CW_IN_COOLER	ISO No.	10000234337	Rev	00

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	168,3 x 4,5	DIN 2448	St 35.8/I	447468	83872255/01	01	00
02	Elbow Type 2, 90°	168,3 x 4,5	DIN2605-T1	St 35.8/I	518425	87170871/02	02	00
03	Weld Neck Flange	DN150/168,3x4,5	DIN2633	C22.8	35474	87140486/03	03	00

ZGN1000023909400000
312411.10.8730 / 200357912 / 0050

4005496 / 00270 / 200357912
Rohrstrecke 203A-C
312411.10.8730 / 200357912 / 0050
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239094 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

REVISION	NAME	DATE	CHECKED	DATE	SUPPLIER	DOCUMENT NO:	SHEET
00	Bellersen	31.05.05			rff Rohr Flansch Fitting Handels GmbH	100002232735	1/1

PIPING BOOK

PIPING No.		ISO No.		Rev		CODE WORD	KOSBOOST
						ORDER-NO	312410
						PSP - ELEMENT	8730

Rev. Line ↓

PIPING No.	204_CW_OUT_COOLER	ISO No.	10000234338	Rev	00

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	168,3 x 4,5	DIN 2448	St 35.8/I	447468	83872255/01	01	00
02	Threadolet	G ¾"	DETAIL 2	C22.8	119938	87280905102	02	00
03	Threadolet	G ½"	DETAIL 1	C22.8	130849	87119852103	03	00
04	Elbow type 2, 90°	168,3 x 4,5	DIN 2605-T1	St 35.8/I	518425	87170871/04	04	00
05	Weld Neck Flange	DN150/168,3x4,5	DIN 2633	C22.8	35474	87140486/05	05	00

ZGN1000023909500000
312411.10.8730 / 200357913 / 0060

4005496 / 00280 / 200357913
Rohrstrecke 204A-C
312411.10.8730 / 200357913 / 0060
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239095 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

REVISION	NAME	DATE	CHECKED	DATE	SUPPLIER		DOCUMENT NO:		SHEET
00	Bellersen	31.05.05				rff Rohr Flansch Fitting Handels GmbH		100002232735	1/1

PIPING BOOK

PIPING No.		ISO No.		Rev		CODE WORD	KOSBOOST
						ORDER-NO	312410
						PSP - ELEMENT	8730

Rev. Line

PIPING No.	205_CW_IN_COOLER-2			ISO No.	10000234339		Rev	00
Pos.	**Part**	**Dimension**	**Standard**	**Material**	**Charge**	**Material Certif. No.**	**Annex**	**Rev.**
01	Pipe seamless	168,3 x 4,5	DIN 2448	St 35.8/I	447468	83872255/01	01	00
02	Elbow Type 2, 90°	168,3 x 4,5	DIN2605-T1	St 35.8/I	518425	87170871/02	02	00
03	Weld Neck Flange	DN150/168,3x4,5	DIN2633	C22.8	18330	87152281/03	03	00

ZGN1000023909600000
312411.10.8730 / 200357914 / 0070

4005496 / 00290 / 200357914
Rohrstrecke 205A-D
312411.10.8730 / 200357914 / 0070
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239096 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

REVISION	NAME	DATE	CHECKED	DATE	SUPPLIER		DOCUMENT NO:		SHEET
00	Bellersen	31.05.05				rff Rohr Flansch Fitting Handels GmbH		100002232735	1/1

PIPING BOOK

PIPING No.	206_CW_COOLER-2	ISO No.	10000234340	Rev	01	CODE WORD	KOSBOOST
						ORDER-NO	312410
						PSP - ELEMENT	8730

Rev. Line ↓

PIPING No.	206_CW_OUT_COOLER-2	ISO No.	10000234340	Rev	01

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	168,3 x 4,5	DIN 2448	St 35.8/I	447468	83872255/01	01	00
02	Threadolet	G ¾"	DETAIL 2	C22.8	119938	87280905/02	02	00
03	Threadolet	G ½"	DETAIL 1	C22.8	130849	87119852/03	03	00
04	Elbow type 2, 90°	168,3 x 4,5	DIN 2605-T1	St 35.8/I	518425	87170871/04	04	00
05	Weld Neck Flange	DN150/168,3x4,5	DIN 2633	C22.8	18330	87152281/05	05	00

ZGN1000023909700000
312411.10.8730 / 200357915 / 0080

4005496 / 00300 / 200357915
Rohrstrecke 206A-D
312411.10.8730 / 200357915 / 0080
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239097 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

REVISION	NAME	DATE	CHECKED	DATE	SUPPLIER	DOCUMENT NO:	SHEET
00	Bellersen	31.05.05			rff Rohr Flansch Fitting Handels GmbH	100002232735	1/1

PIPING BOOK

PIPING No.		ISO No.		Rev		CODE WORD	KOSBOOST
						ORDER-NO	312410
						PSP - ELEMENT	8730

Rev. Line

PIPING No.	207_CW_IN_COOLER-3	ISO No.	10000234341	Rev	00

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	168,3 x 4,5	DIN 2448	St 35.8/I	447468	83872255/01	01	00
02	Elbow Type 2, 90°	168,3 x 4,5	DIN2605-T1	St 35.8/I	518425	87170871/02	02	00
03	Weld Neck Flange	DN150/168,3x4,5	DIN2633	C22.8	18330	87152281/03	03	00

ZGN1000023909800000
312411.10.8730 / 200357917 / 0090

4005496 / 00310 / 200357917
Rohrstrecke 207A-D
312411.10.8730 / 200357917 / 0090
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239098 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

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00	Bellersen	31.05.05			rff Rohr Flansch Fitting Handels GmbH	100002232735	1/1

PIPING BOOK

PIPING No.	208_CW_OUT_COOLER-3	ISO No.	10000234342	Rev	01	CODE WORD	KOSBOOST
						ORDER-NO	312410
						PSP - ELEMENT	8730

Rev. Line ↓

PIPING No.	208_CW_OUT_COOLER-3	ISO No.	10000234342	Rev	01

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	168,3 x 4,5	DIN 2448	St 35.8/I	447468	83872255/01	01	00
02	Threadolet	G ¾"	DETAIL 2	C22.8	119938	87280905/02	02	00
03	Threadolet	G ½"	DETAIL 1	C22.8	130849	87118952/03	03	00
04	Elbow type 2, 90°	168,3 x 4,5	DIN 2605-T1	St 35.8/I	518425	87170871/04	04	00
05	Weld Neck Flange	DN150/168,3x4,5	DIN 2633	C22.8	35474	87140486/05	05	00

ZGN1000023909900000
312411.10.8730 / 200357918 / 0100

4005496 / 00320 / 200357918
Rohrstrecke 208A-D
312411.10.8730 / 200357918 / 0100
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239099 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

REVISION	NAME	DATE	CHECKED	DATE	SUPPLIER	DOCUMENT NO:	SHEET
00	Bellersen	31.05.05			rff Rohr Flansch Fitting Handels GmbH	100002232735	1/1

PIPING BOOK

CODE WORD	KOSBOOST				
ORDER-NO	312410				
PSP - ELEMENT	8730				
PIPING No.		ISO No.		Rev	

PIPING No.	209_CW_IN_COOLER-4	ISO No.	10000234343	Rev	00

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	168,3 x 4,5	DIN 2448	St 35.8/I	447468	83872255/01	01	00
02	Elbow Type 2, 90°	168,3 x 4,5	DIN2605-T1	St 35.8/I	518425	87170871/02	02	00
03	Weld Neck Flange	DN150/168,3x4,5	DIN2633	C22.8	35474	87140486/03	03	00

ZGN1000023910000000
312411.10.8730 / 200357919 / 0110

4005496 / 00330 / 200357919
Rohrstrecke 209A-C
312411.10.8730 / 200357919 / 0110
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239100 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

REVISION	NAME	DATE	CHECKED	DATE	SUPPLIER	DOCUMENT NO:	SHEET
00	Bellersen	31.05.05			rff Rohr Flansch Fitting Handels GmbH	100002232735	1/1

PIPING BOOK

PIPING No.	210_CW_OUT_COOLER-4	ISO No.	10000234344	Rev	01	CODE WORD	KOSBOOST
						ORDER-NO	312410
						PSP - ELEMENT	8730

Rev. Line ↓

PIPING No.	210_CW_OUT_COOLER-4	ISO No.	10000234344	Rev	01

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	168,3 x 4,5	DIN 2448	St 35.8/I	447468	83872255/01	01	00
02	Threadolet	G ¾"	DETAIL 2	C22.8	119938	87280905/02	02	00
03	Threadolet	G ½"	DETAIL 1	C22.8	130849	87119852/03	03	00
04	Elbow type 2, 90°	168,3 x 4,5	DIN 2605-T1	St 35.8/I	518425	87170871/04	04	00
05	Weld Neck Flange	DN150/168,3x4,5	DIN 2633	C22.8	35474	87140486/05	05	00

ZGN1000023910100000
312411.10.8730 / 200357926 / 0120

4005496 / 00340 / 200357926
Rohrstrecke 210A-C
312411.10.8730 / 200357926 / 0120
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239101 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

REVISION	NAME	DATE	CHECKED	DATE	SUPPLIER	DOCUMENT NO:	SHEET
00	Bellersen	31.05.05			rff Rohr Flansch Fitting Handels GmbH	100002232735	1/1

PING BOOK

CODE WORD	KOSBOOST
ORDER-NO	312410
PSP - ELEMENT	8730

Rev. Line ↓

PIPING No.	211_CW_IN_M+O	ISO No.	10000234345	Rev	00

PIPING No.	211_CW_IN_M+O	ISO No.	10000234345	Rev	00

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	168,3 x 4,5	DIN 2448	St 35.8/I	447468	83872255/01	01	00
02	Pipe seamless	33,7x2,6	DIN 2448	St 35.8/I	30870K	83371135/02	02	00
03	tee	168,3x4,5/88,9x3,2	DIN 2615-T1	St 35.8/I	344299	87211375/03	03	00
04	Elbow Type 2, 90°	168,3x4,5	DIN 2605-T1	St 35.8/I	518425	87170871/04	04	00
05	Elbow Type 3, 90°	33,7x2,6	DIN 2605-T1	St 35.8/I	210208	87113097/05	05	00
06	Weld Neck Flange	DN150/168,3x4,5	DIN 2633	C22.8	18330	87152281/06	06	00
07	Weld Neck Flange	DN80/88,9x3,2	DIN 2633	C22.8	8510	87150440/07	07	00
08	Weld Neck Flange	DN25/33,7x2,6	DIN 2633	C22.8	71556	84027268/08	08	00
10	Blind Flange PN16	DN25	DIN 2527	C22.8	6897	83574449/09	09	00

ZGN1000023910200000
312411.10.8730 / 200357927 / 0010

4005496 / 00410 / 200357927
Rohrstrecke 211A
312411.10.8730 / 200357927 / 0010
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239102 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

REVISION	NAME	DATE	CHECKED	DATE	SUPPLIER	rff Rohr Flansch Fitting Handels GmbH	DOCUMENT NO:	100002232735	SHEET 1/1
00	Bellersen	31.05.05							

PIPING BOOK

PIPING No.	212_CW_OUT_M+O	ISO No.	10000234346	Rev	00	CODE WORD	KOSBOOST
						ORDER-NO	312410
						PSP - ELEMENT	8730

Rev. Line

PIPING No.	212_CW_OUT_M+O	ISO No.	10000234346	Rev	00

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	168,3 x 4,5	DIN 2448	St 35.8/I	447468	83872255/01	01	00
02	Pipe seamless	33,7x2,6	DIN 2448	St 35.8/I	30870K	83371135/02	02	00
03	Tee	168,3x4,5/88,9x3,2	DIN 2615-T1	St 35.8/I	344299	87211375/03	03	00
04	Elbow Type 2, 90°	168,3x4,5	DIN 2605-T1	St 35.8/I	518425	87170871/04	04	00
05	Elbow Type 3, 90°	33,7x2,6	DIN 2605-T1	St 35.8/I	210208	87113097/05	05	00
06	Weld Neck Flange	DN150/168,3x4,5	DIN 2633	C22.8	18330	87152281/06	06	00
07	Weld Neck Flange	DN80/88,9x3,2	DIN 2633	C22.8	8510	87150440/07	07	00
08	Weld Neck Flange	DN25/33,7x2,6	DIN 2633	C22.8	71556	84027268/08	08	00
10	Blind Flange PN16	DN25	DIN 2527	C22.8	6897	83574449/09	09	00

ZGN1000023910300000
312411.10.8730 / 200357928 / 0020

4005496 / 00420 / 200357928
Rohrstrecke 212A
312411.10.8730 / 200357928 / 0020
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239103 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

REVISION	NAME	DATE	CHECKED	DATE	SUPPLIER	DOCUMENT NO:	SHEET
00	Bellersen	31.05.05			rff Rohr Flansch Fitting Handels GmbH	100002232735	1/1

PING BOOK

PIPING No.	213_CW_IN_OEL	ISO No.	10000234347	Rev	01	CODE WORD	KOSBOOST
						ORDER-NO	312410
						PSP - ELEMENT	8730

Rev. Line

PIPING No.	213_CW_IN_OEL	ISO No.	10000234347	Rev	01

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	88,9x3,2	DIN 2448	St 35.8/I	320326	87193352/01	01	00
02	Reducer concentric	114,3x3,6/88,9x3,2	DIN 2616-T2	St 35.8/I	26936	87123823/02	02	00
03	Elbow Type 2, 90°	114,3x3,6	DIN 2605-T1	St 35.8/I	30191	87244400/03	03	00
04	Elbow Type 2, 90°	88,3x3,2	DIN 2605-T1	St 35.8/I	3910	83112749/04	04	00
05	Weld Neck Flange	DN80/88,9x3,2	DIN 2633	C22.8	8510	87150440/05	05	00

ZGN1000023910400000
312411.10.8730 / 200357930 / 0030

4005496 / 00430 / 200357930
Rohrstrecke 213A-E
312411.10.8730 / 200357930 / 0030
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239104 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

REVISION	NAME	DATE	CHECKED	DATE	SUPPLIER	DOCUMENT NO:	SHEET
00	Bellersen	31.05.05			rff Rohr Flansch Fitting Handels GmbH	100002232735	1/1

PIPING BOOK

PIPING No.	214_CW_OUT_OEL	ISO No.	10000234348	Rev	01	CODE WORD	KOSBOOST
						ORDER-NO	312410
						PSP - ELEMENT	8730

Rev. Line ↓

PIPING No.	214_CW_OUT_OEL	ISO No.	10000234348	Rev	01

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	114,3x3,6	DIN 2448	St 35.8/I	35265	83649668/01	01	00
02	Pipe seamless	88,9x3,2	DIN 2448	St 35.8/I	320326	87193352/02	02	00
03	Threadolet	G ¾"	DETAIL 1	C22.8	119938	87280905/03	03	00
04	Elbow Type 2, 90°	114,3x3,6	DIN 2605-T1	St 35.8/I	30191	87244400/04	04	00
05	Elbow Type 2, 90°	88,9x3,2	DIN 2605-T1	St 35.8/I	3910	83112749/05	05	00
06	Elbow, Type 2, 45°	88,9x3,2	DIN 2605-T1	St 35.8/I	3910	83112749/06	06	00
07	Weld Neck Flange	DN80/88,9x3,2	DIN 2633	C22.8	8510	87150440/07	07	00

ZGN1000023910500000
312411.10.8730 / 200357931 / 0040

4005496 / 00440 / 200357931
Rohrstrecke 214A-E
312411.10.8730 / 200357931 / 0040
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239105 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

REVISION	NAME	DATE	CHECKED	DATE	SUPPLIER	DOCUMENT NO:	SHEET
00	Bellersen	31.05.05			rff Rohr Flansch Fitting Handels GmbH	100002232735	1/1

PIPING BOOK

PIPING No.	214_CW_OUT_OEL	ISO No.	10000234348	Rev	01	CODE WORD	KOSBOOST
						ORDER-NO	312410
						PSP - ELEMENT	8730

Rev. Line ↓

PIPING No.	214_CW_OUT_OEL	ISO No.	10000234348	Rev	01

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	114,3x3,6	DIN 2448	St 35.8/I	35265	83649668/01	01	00
02	Pipe seamless	88,9x3,2	DIN 2448	St 35.8/I	320326	87193352/02	02	00
03	Threadolet	G ¾"	DETAIL 1	C22.8	119938	87280905/03	03	00
04	Elbow Type 2, 90°	114,3x3,6	DIN 2605-T1	St 35.8/I	30191	87244400/04	04	00
05	Elbow Type 2, 90°	88,9x3,2	DIN 2605-T1	St 35.8/I	3910	83112749/05	05	00
06	Elbow, Type 2, 45°	88,9x3,2	DIN 2605-T1	St 35.8/I	3910	83112749/06	06	00
07	Weld Neck Flange	DN80/88,9x3,2	DIN 2633	C22.8	8510	87150440/07	07	00

ZGN1000023910500000
312411.10.8730 / 200357931 / 0040

4005496 / 00440 / 200357931
Rohrstrecke 214A-E
312411.10.8730 / 200357931 / 0040
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239105 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

REVISION	NAME	DATE	CHECKED	DATE	SUPPLIER	DOCUMENT NO:	SHEET
00	Bellersen	31.05.05			rff Rohr Flansch Fitting Handels GmbH	100002232735	1/1

PIPING BOOK

PIPING No.	215_CW_IN_MOTOR	ISO No.	10000234349	Rev	00	CODE WORD	KOSBOOST
						ORDER-NO	312410
						PSP - ELEMENT	8730

Rev. Line ↓

PIPING No.	215_CW_IN_MOTOR	ISO No.	10000234349	Rev	00

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	88,9x3,2	DIN 2448	St 35.8/I	320326	87193352/01	01	00
02	Reducer concentric	168,3x4,5/88,9x3,2	DIN 2616-T2	St 35.8/I	20431	87263453/02	02	00
03	Elbow Type 3, 90°	88,9x3,2	DIN 2605-T1	St 35.8/I	A4433	83892184/03	03	00
04	Weld Neck Flange	DN150/168,3x4,5	DIN 2633	C22.8	18330	87152281/04	04	00
05	Weld Neck Flange	DN80/88,9x3,2	DIN 2633	C22.8	8510	87150440/05	05	00

ZGN1000023946600000
312411.10.8730 / 200359717 / 0100

4005496 / 00450 / 200359717
Rohrstrecke 215A-B
312411.10.8730 / 200359717 / 0100
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239466 00 000

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00	Bellersen	31.05.05			rff Rohr Flansch Fitting Handels GmbH	100002232735	1/1

PIPING BOOK

PIPING No.	215_CW_IN_MOTOR	ISO No.	10000234349	Rev	00	CODE WORD	KOSBOOST	Rev. Line ↓
						ORDER-NO	312410	
						PSP - ELEMENT	8730	

PIPING No.	215_CW_IN_MOTOR	ISO No.	10000234349	Rev	00

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	88,9x3,2	DIN 2448	St 35.8/I	320326	87193352/01	01	00
02	Reducer concentric	168,3x4,5/88,9x3,2	DIN 2616-T2	St 35.8/I	20431	87263453/02	02	00
03	Elbow Type 3, 90°	88,9x3,2	DIN 2605-T1	St 35.8/I	A4433	83892184/03	03	00
04	Weld Neck Flange	DN150/168,3x4,5	DIN 2633	C22.8	18330	87152281/04	04	00
05	Weld Neck Flange	DN80/88,9x3,2	DIN 2633	C22.8	8510	87150440/05	05	00

ZGN1000023946700000
312411.10.8730 / 200359720 / 0110

4005496 / 00460 / 200359720
Rohrstrecke 215C-E
312411.10.8730 / 200359720 / 0110
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239467 00 000

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00	Bellersen	31.05.05			rff Rohr Flansch Fitting Handels GmbH	100002232735	1/1

PING BOOK

PIPING No.	216_CW_OUT_MOTOR	ISO No.	10000234350	Rev	00	CODE WORD	KOSBOOST	Rev. Line
						ORDER-NO	312410	
						PSP - ELEMENT	8730	

PIPING No.	216_CW_OUT_MOTOR	ISO No.	10000234350	Rev	00

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	168,3x4,5	DIN 2448	St35.8/I	449117	83971063/01	01	00
02	Pipe seamless	88,9x3,2	DIN 2448	St 35.8/I	320326	87193352/02	02	00
03	Reducer concentric	168,3x4,5/88,9x3,2	DIN 2616-T2	St 35.8/I	20431	87263453/03	03	00
04	Threadolet	G ¾"	DETAIL 1	C22.8	119938	87280905/04	04	00
05	Elbow Type 3, 90°	88,9x3,2	DIN 2605-T1	St 35.8/I	A4433	83892184/05	05	00
06	Elbow Type 3, 90°	88,9x3,2	DIN 2605-T1	St 35.8/I	A4475	83639987/06	06	00
07	Weld Neck Flange	DN150/168,3x4,5	DIN 2633	C22.8	18330	87152281/07	07	00
08	Weld Neck Flange	DN80/88,9x3,2	DIN 2633	C22.8	8510	87150440/08	08	00

ZGN1000023946800000
312411.10.8730 / 200359718 / 0200

4005496 / 00470 / 200359718
Rohrstrecke 216A-C
312411.10.8730 / 200359718 / 0200
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239468 00 000

All testings and certificates have to be identified in annex! Kind of tests and certificates are specified in MAN testing plan and delivery specification

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00	Bellersen	31.05.05			rff Rohr Flansch Fitting Handels GmbH	100002232735	1/1

PING BOOK

PIPING No.	216_CW_OUT_MOTOR	ISO No.	10000234350	Rev	00	CODE WORD	KOSBOOST	Rev. Line
						ORDER-NO	312410	
						PSP - ELEMENT	8730	

PIPING No.	216_CW_OUT_MOTOR	ISO No.	10000234350	Rev	00

Pos.	Part	Dimension	Standard	Material	Charge	Material Certif. No.	Annex	Rev.
01	Pipe seamless	168,3x4,5	DIN 2448	St35.8/I	449117	83971063/01	01	00
02	Pipe seamless	88,9x3,2	DIN 2448	St 35.8/I	320326	87193352/02	02	00
03	Reducer concentric	168,3x4,5/88,9x3,2	DIN 2616-T2	St 35.8/I	20431	87263453/03	03	00
04	Threadolet	G ¾"	DETAIL 1	C22.8	119938	87280905/04	04	00
05	Elbow Type 3, 90°	88,9x3,2	DIN 2605-T1	St 35.8/I	A4433	83892184/05	05	00
06	Elbow Type 3, 90°	88,9x3,2	DIN 2605-T1	St 35.8/I	A4475	83639987/06	06	00
07	Weld Neck Flange	DN150/168,3x4,5	DIN 2633	C22.8	18330	87152281/07	07	00
08	Weld Neck Flange	DN80/88,9x3,2	DIN 2633	C22.8	8510	87150440/08	08	00

ZGN1000023946900000
312411.10.8730 / 200359719 / 0210

4005496 / 00480 / 200359719
Rohrstrecke 216D-E
312411.10.8730 / 200359719 / 0210
D: Abnahmeprüfzeugnis - 3.1 B / EN 10204
ZGN 10000239469 00 000

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00	Bellersen	31.05.05				rff Rohr Flansch Fitting Handels GmbH		100002232735	1/1