

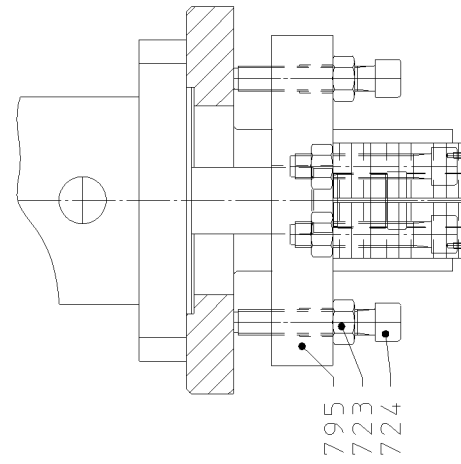
23.11.2011

Final

Project/Projekt:					
POLANIEC GREEN UNIT					
Subject/Opis:					
Dimensional drawings for Welland & Tuxhorn valves					
FWEOY document code/Kod KKS dokumentu FWEOY:			Client's Document Code/Kod Dokumentu Klienta:		
953-FW++++AA-MDA1901					
Vendor/Dostawca:	Vendor's doc. code/ Kod dok.dostawcy:	FWEOY Checked/Sprawdził:	FWEOY Approved/Zatwierdził:		
Kontram Oy		Raisanen Hugo	Kapanen Ari 23.11.2011		
Revision remarks/Uwagi do rewizji:					
Revision/ Rewizja:	Date/Data:	Revised information/Informacje zaktual:	Pages/ Strony:	FWEOY Checked by/Sprawdził:	FWEOY Approved by/Zatwierdził:
a	02.04.2012	Updated		Raisanen Hugo	Kapanen Ari
Relates to following items FW KKS positions/Związane z następującymi elementami (kod KKS) - Client's KKS positions/ Elementy KKS Klienta:					
FWHAD03AA120	9HAD03AA202				
FWLAE61AA210	9LAF10AA401				
FWLAE62AA210	9LAF20AA401				
FWLBB10AA401	9LBB10AA701				
FWLBB10AA402	9LBB10AA702				
FWLBF10AA201	9LBF10AA401				
FWLBF20AA201	9LBF20AA401				
FWLCQ10AA110	9LCQ10AA201				

The limit siap (795) is to be pushed between yoke flange and spindle coupling at closed station. The cheese-head screws (724) are to be restrained against the yoke by turning them clockwise ; they have to be secured by nuts (725).

Caution
After finishing of the pressure test the interlocking device has to be removed and kept in a safe place for next pressure tests



Mounting instruction for original
W&T pure graphite packing rings:

Pull the spindle out of the seat area in opening direction and tighten the nuts of the stuffing box screws to the appropriate torque of 42 Nm.

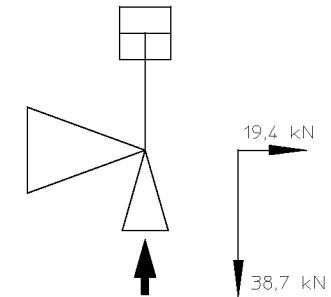
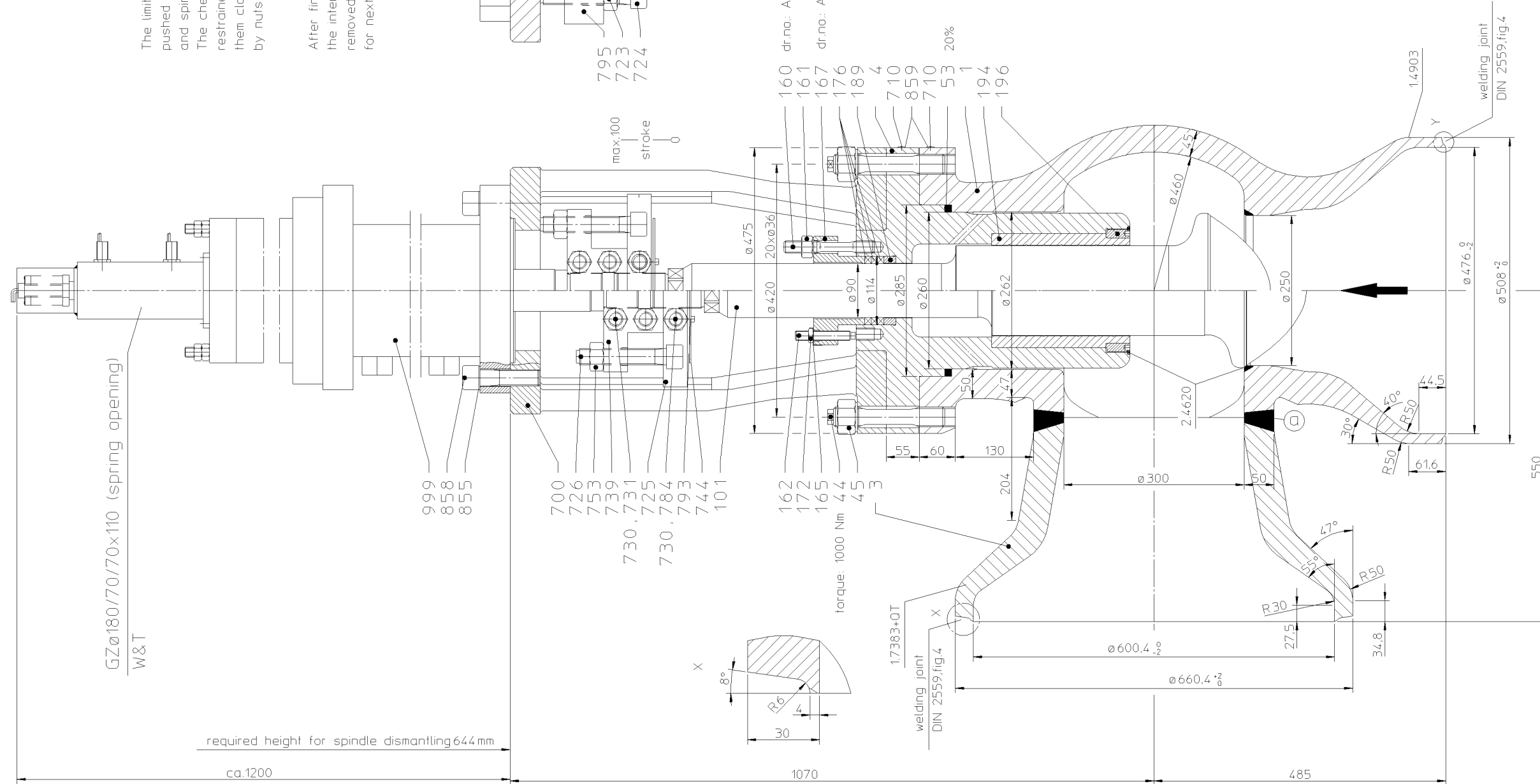
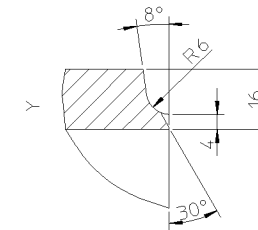
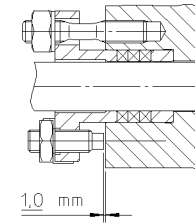
Unload the stuffing box.

Tighten the stuffing box to a torque of 33 Nm.

Move the spindle several times to and fro.

Check the torque of 33 Nm of the stuffing box.

Adjust the torque limiting screws and fix them by lock washer.



Attention:

The given torques are only valid for screws in new condition, used with Hot Thread Compound GLEITMO 165.

note TRD 508

* recommended spare parts

weight with actuator about 1800 kg

Mounting position :
spindle vertical

test pressure according to EN 12266-1
for inlet: 63,8 bar
for outlet: 46 bar

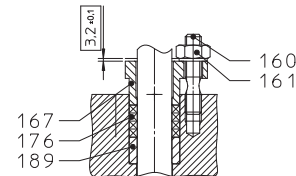
999	1	actuator							726	4	cheese head screw	8.8					M27x150		165	2	washer	St	93				17
859	1	type plate	1.4301						725	2	stroke index	10161							162	2	grub screw	45H	915				M16X100
858	6	cheese head screw	8.8	912			M27X100		724	4	cheese head screw	8.8					M27x150		161	2	hexagon nut	17218	2510	3.1	106		NFM 20
855	6	locking ring	1.1211				Schnorr S27		723	4	hexagon nut	8	ISO 4032				M27		160	2	screw bolt	17711		3.2	106		M20X145
795	1	limit stop	1.7335+QT						710	4	grooved drive stud	1.0203	ISO 8746				2x6		101*	1	spindle with parab.plug trim	1.4122+QT					
793	4	cheese head screw	8.8	ISO 4762			M6X10		700	1	yoke	1.7706+QT					mod 8228-12		53*	1	profile ring	pure graphite					285/260X15
784	2	screw bolt	1.7709+QT	2510			LM24X205		196	1	ring nut	1.4903							45	20	hexagon nut	1.4923+QT	2510	3.1	106		NFM 33
753	4	hexagon nut	8	ISO 4032			M27		194	1	guide bush	2.8877							44	20	screw bolt	1.4923+QT	2510	3.2	106		LM33X185
744	1	plate	1.0254						189	1	base ring	1.4122+QT							4	1	cover	1.4903		3.2			475X455
739	1	coupling piece	1.0570						176*	3	packing ring	pure graphite					114/90X12		3	1	outlet pipe connection	1.7383+QT		3.2			661/260X355
731	12	hexagon nut	1.7218	2510			NFM 24		172	2	hexagon nut	8	ISO 4035				M 16		3	1	body	1.4903		3.2			550/245X875
730	4	screw bolt	1.7709+QT	2510			LM24X185		167	1	stuffing box	1.7335+QT			3.2		180/90X85		no.	piece	denomination	material	DIN				dimension

Flow reactions added				C	2103.12	Fin.-Sch.
Part no.196 buffering added.				b	15.08.11	Britt
Coupling piece no.739 changed and no.726+753 added				a	29.07.11	Fin.-Sch.
Änderung/modification				Index	Datum/date	Gez./drawn
Medium: medium:		Konzessionsdaten Eintrif. design data interl.		Austrif. outlet	Gepr./ch	
steam		Pe 30 bar		20 bar	W&T Pos:	
Temp: 555 °C		Temp: 555 °C		001		
Kom.:	31521					
Pos.:	FW LBB10AA401					
Stck/piece	1					
2011	Datum/date	Name/name	Maßstab scale	Maße ohne Toleranzan- gabe n. ISO 2768 - m		
Gez./drawn by	0102	Britt	1:4	WELLAND & TUXHORN AG ARMATUREN UND MASCHINENFABRIK Postfach 14, 20 D-33630 Bielefeld Güterlahrer Str. 257 D-33649 Bielefeld		
Gepr./checked by	08.02	Foe				
Bez./sign:	ZUS I + F . . . 1 - 0 - Sm - ES					
ZUE-Safety station DN 500/600						
Ersetzt durch/replaced by Z.Nr./dr.no O.C				Version: 1 Revision: vom/from		
Ersetzt fuer/substitute for Z.Nr./dr.no O.C58501Eb				Version: 1 Revision: b vom/from 15.08.11		

construction of actuator				construction of connection	
type of actuator	electric actuator	pneumatic actuator	hydraulic actuator	DN	80
model			displ.transducer yes no	PN	100
size of actuator	Nm	cm ²	GZ063 W&T	ANSI Class	
drawing for actuator			GZ063-6	daE/daA	88.9 88.9
				diE/diA	78.9 78.9
				Toler.daE/daA	+1.0 +1.0
				Toler.diE/diA	-0.5 -0.5
				L	349
				L1	1269

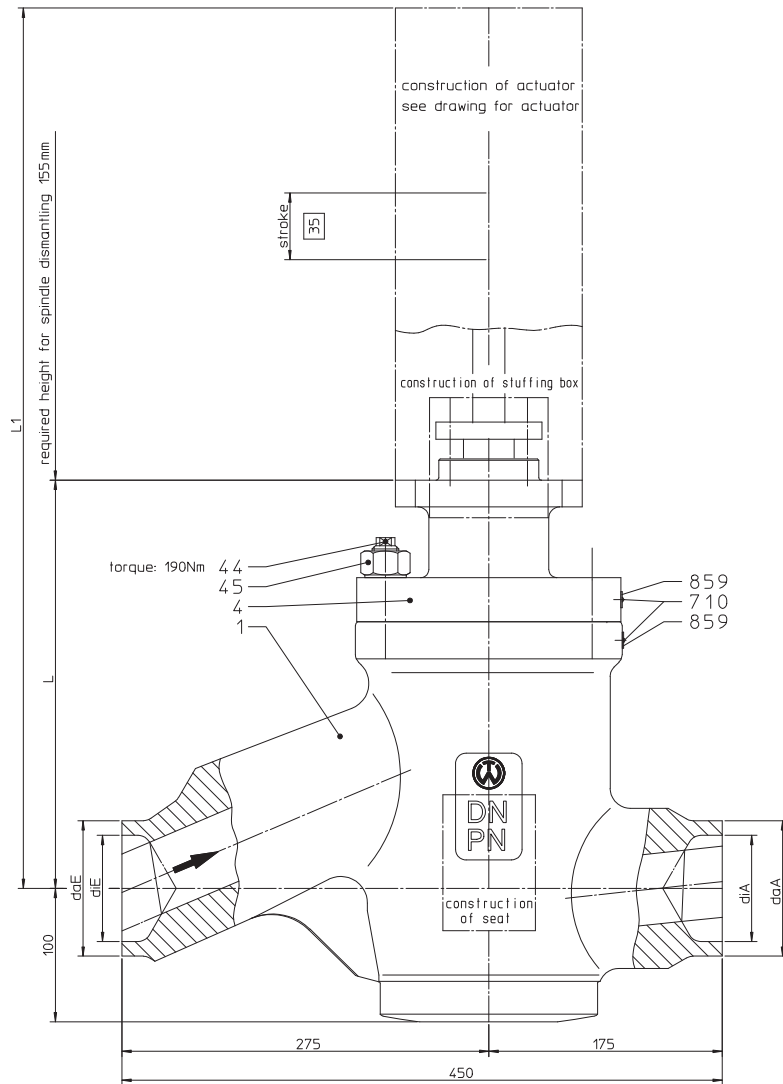
welding joint		
DIN EN 12627 fig 1	DIN EN 12627 fig 2	DIN EN 12627 fig 3
DIN2559 form 1	DIN2559 form 2+22	DIN2559 form 4
ASME B16.25 ANSI B16.25 fig 1	ASME B16.25 ANSI B16.25 fig 2	ASME B16.25 ANSI B16.25 fig 3

construction of stuffing box



Mounting instruction for original
W&T pure graphite packing rings:

Pull the spindle out of the seat area
in opening direction and tighten
the stuffing box over a length of 2.4 mm.
Then move the spindle in closing
direction and tighten the stuffing box
over a length of 3.2 mm.
Appropriate tightening torque about 21 Nm.



Attention:

The given torques are only valid for
screws in new condition,used with
Hot Thread Compound GLEITMO 165.

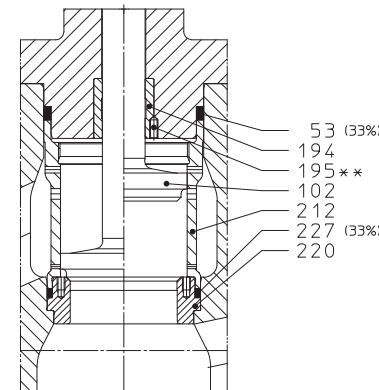
* recommended spare part
** secured by prick-punching
weight with actuator about 175 kg

mounting position:
spindle vertical ☒
spindle horizontal ☐

test pressure according to DGR
for inlet: 137.5 bar
for outlet: 137.5 bar

859	2	type plate	1.4301			167	1	stuffing box	1.7335+QT			
710	4	grooved drive stud	1.0203	ISO 8746	2x6	161	2	hexagon nut	1.7218	2510	NFM 12	
227*	1	profile ring	pure graphite		115/107X10	160	2	screw bolt	1.7709+QT		M12X60	
220*	1	seat	1.4122+QT			102*	1	spindle w. special ball	1.4122+QT			
212	1	control cylinder	1.7380+QT			53*	1	profile ring	pure graphite		120/109x15	
195	3	grub screw	45H	914	M6X16	45	8	hexagon nut	1.7218	2510	NFM 20	
194	1	guide bush	1.7380+QT			44	8	screw bolt	1.7709+QT	2510	LM20X85	
189	1	base ring	1.4122+QT			4	1	cover	1.7380+QT			
176*	4	packing ring	pure graphite		48/32x8	1	1	body	1.5415		forged body7458	
						no.	piece	denomination	material	DIN	dimension	Kg

construction of seat: 1-stage ☒ 2-stages ☐ 3-stages ☐



seat ø 40
spindle ø 32

Pos.modified						a		14.14.10		Fin.-Sch.	
				modification		index		date		checked	
medium:				design data		inlet:		outlet:		W&T	
steam				pe: 80 bar		pe: 80 bar		80 bar		pos:	
				temp.: 200 °C		temp.: 200 °C		200 °C		004	
com:		31521									
pos:		FW LAE 61/62 AA210									
piece:		2									
2010		date		name		scale					
drawn by		06.09.		Lein.		1:2					
checked by		07.09.		Foe.							
sign: RVG.....-1-0-Ge-DS											
Control Valve											
DN 80 PN 100											
				WILLARD & TUXHORN AG ARMATUREN- UND MASCHINENFABRIK Postfach 14 10 20 D-33630 Bielefeld Güterfelder Str. 257 D-33649 Bielefeld							
											
				drawing no. 0.C58504Ea							
				version: 1 revision: a							
replaced by drawing no.0.C				version: 1		revision: from					
substitute for drawing no.0.C58504E				version: 1		revision: 0 from 06.09.10					

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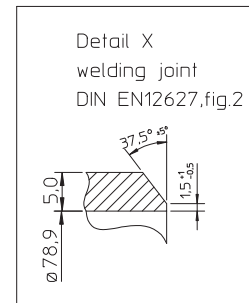
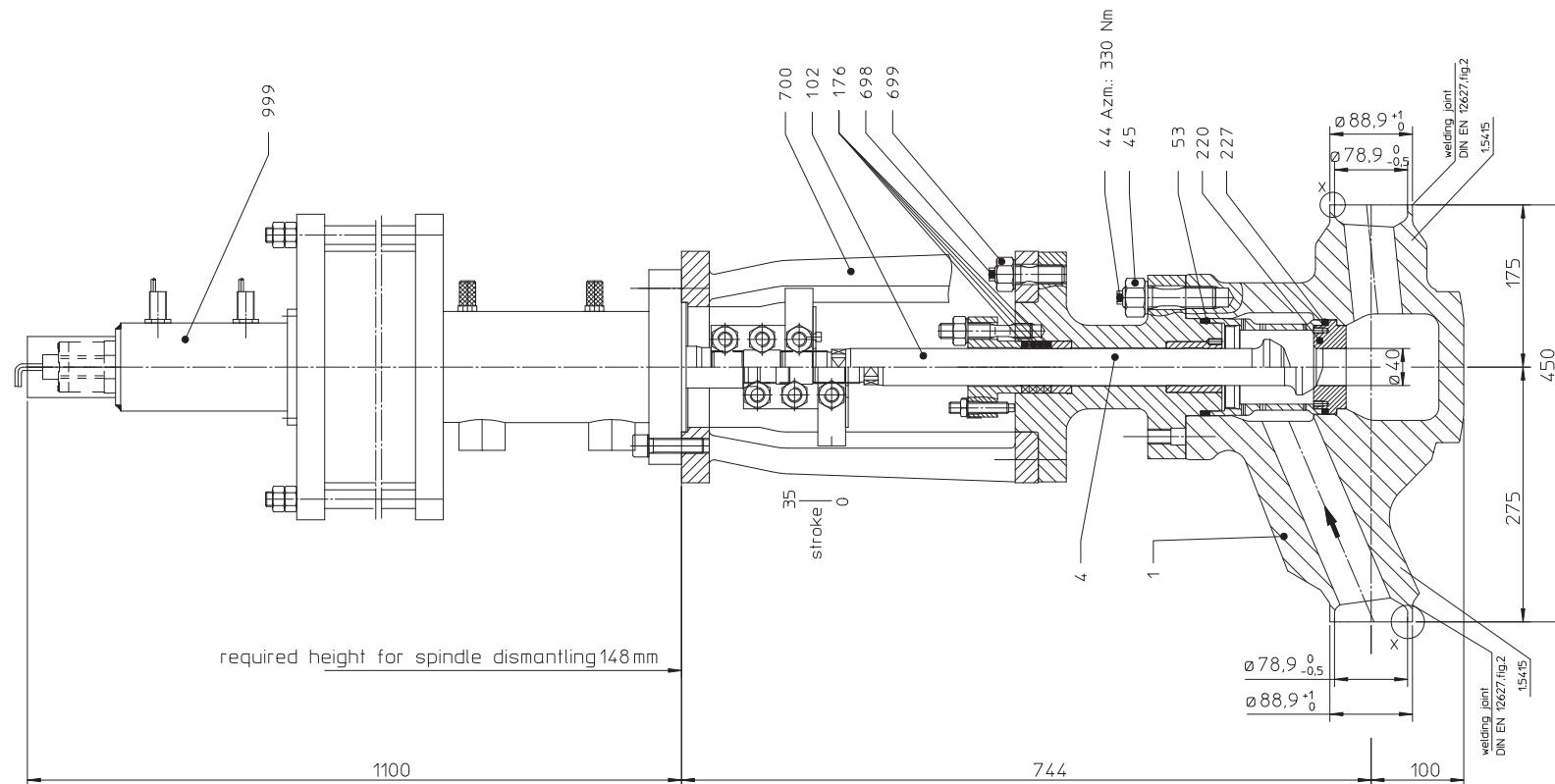


drawing no. 0.C58504Ea
revision: a

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endgueltiges Massblatt / final drawing

Anlage/ plant : Polaniec 450MW CFB Boiler
Anfrage/ inquiry : Kontram Oy
Angebot/ offer : 09/306-005-005-0-0 | 00v.02.09.10



required height for spindle dismantling 148 mm

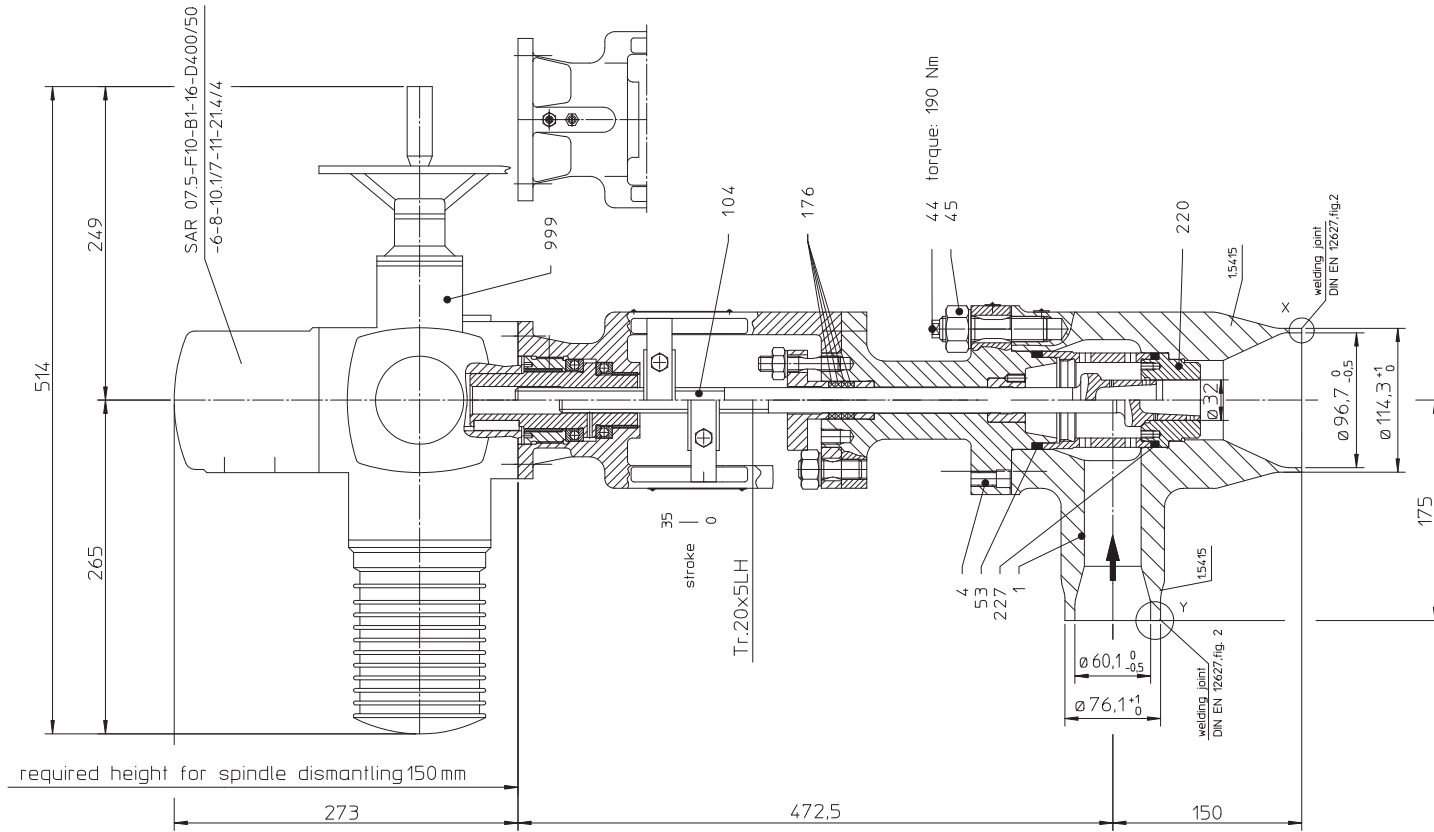
* recommended spare parts
weight with actuator about 180 kg

Mounting position :
spindle vertical

test pressure according to EN 12266-1
for inlet: 137,5 bar
for outlet: 137,5 bar

999	1	actuator			GZ100	102*	1	spindle with special ball	1.4122+QT				
700	1	yoke	1.0619+N		mod.8112-13	53*	1	profile ring	pure graphite		105/95X15		
699	6	hexagon nut	1.7218	2510	NFM 20	45	8	hexagon nut	1.7218	2510	NFM24		
698	6	screw bolt	1.7709+QT		M20X75	44	8	screw bolt	1.7709+QT	2510	M24X100		
227*	1	profile ring	pure graphite		102/90X10	4	1	cover	1.7380+QT				
220*	1	seat	1.4122+QT			1	1	body	1.5415		forged body7458		
176*	4	packing ring	pure graphite		56/40X8	no.	piece	denomination	material	DIN	dimension	kg	

Detail drawing added				b	27.01.11	Fin.-Sch.	
drawing modified				a	14.10.10	Fin.-Sch.	
Aenderung/modification							
Medium:	Konzessionsdaten			Eintritt:	Austritt:		W&T Pos:
medium:	design data			inlet:	outlet:		
water	Pe:	80	bar	Pe:	80	bar	
	Temp.:	200	°C	Temp.:	200	°C	
Kom.:	31521						
Pos.:	FW LAE 61/62 AA210						
Stck./piece	2						
2010	Datum/date	Name/name	Maßstab	WELLAND & TUXHORN AG ARMATUREN- UND MASCHINENFABRIK Postfach 14 10 20 D-33630 Bielefeld Guelterischer Str. 257 D-33649 Bielefeld 			
Gez./drawn by	07.09.	Lein.	scale				
Gepr./check by	07.09.	Foe.	-----				
Bez./sign:	RVG- 1-0-Ge-DS						
Shut Off Valve				Z.Nr. / dr. no 0.C.58505E-MASb			
DN 80 PN 100							
Ersetzt durch/replaced by Z.Nr./dr.no.0.C				Version: 1		Revision: b	
				Version: vom/from			
Ersatz fuer/substitute for Z.Nr./dr.no.0.C58505E-MASa Version: 1 Revision: a vom/from 14.10.10							



* recommended spare parts
weight with actuator about 150 kg

Mounting position :
spindle vertical

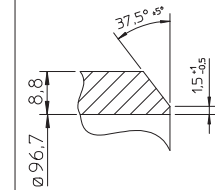
test pressure according to EN 12266-1
for inlet: 368,6 bar
for outlet: 11,4 bar

999	1	actuator				53*	1	profile ring	pure graphite		78/68X12	
227*	1	profile ring	pure graphite		75/65X9	45	8	hexagon nut	1.7218	2510	NFM 20	
220*	1	seat	1.4122+QT			44	8	screw bolt	1.7709+QT	2510	LM20X85	
176*	4	packing ring	pure graphite		30/20X5	4	1	cover	1.7380+QT			
104*	1	spindle-perforated cage trim	1.4122+QT			1	1	body	1.5415		forged body7455	
						no.	piece	denomination	material	DIN	dimension	kg

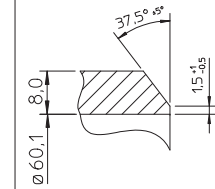
endgueltiges Massblatt / final drawing

Anlage/ plant : Polaniec 450MW CFB Boiler
Anfrage/ inquiry : Kontram Oy
Angebot/ offer : 09/306-005-006-0-0 | 00v.02.09.10

Detail X
welding joint
DIN EN12627,fig.2



Detail Y
welding joint
DIN EN12627,fig.2

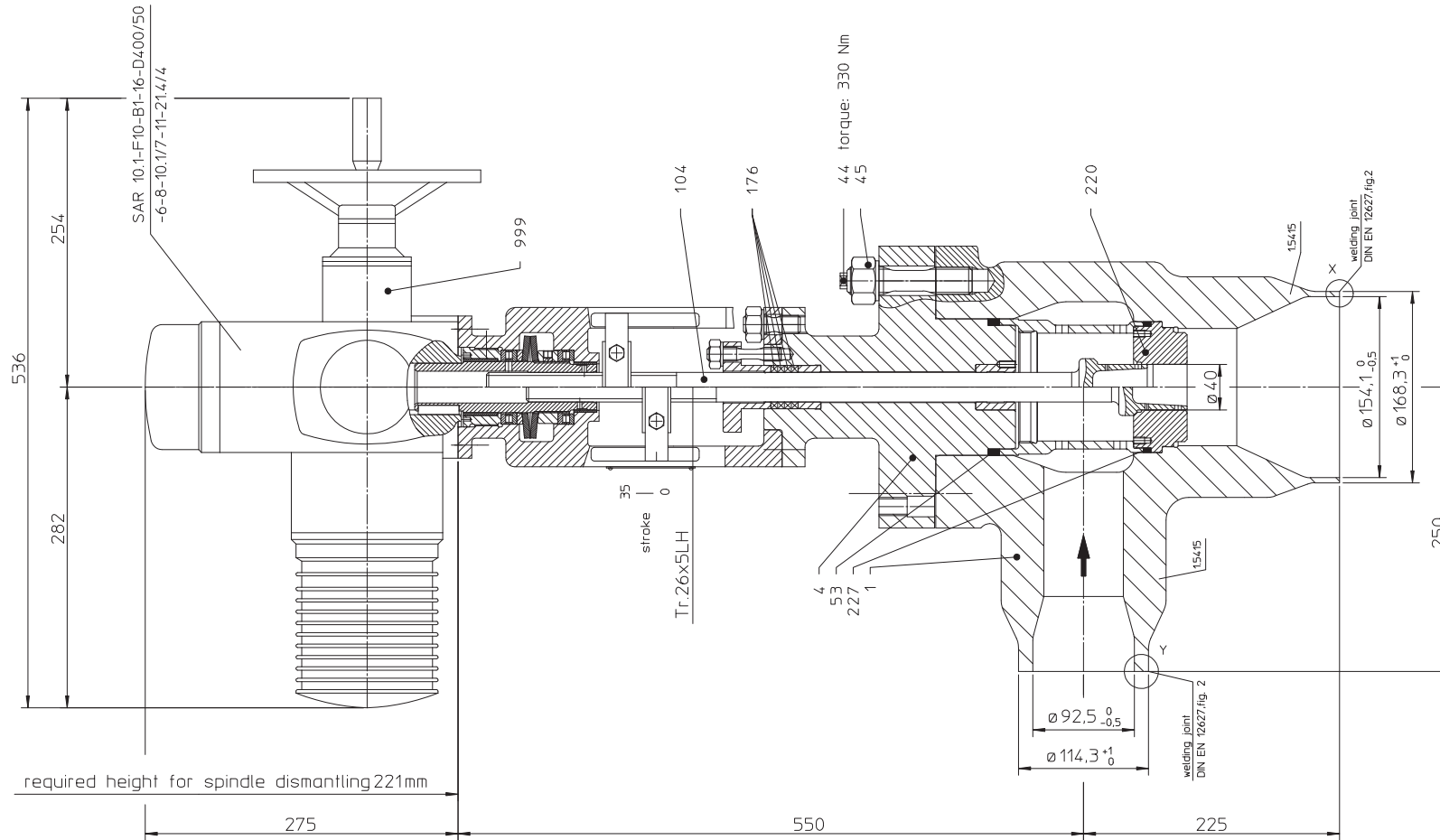


outlet dimension ad 114,3x3,6 changed into ad 114,3x8,8mm +welding joint fig.1 changed in 2		b	27.01.11	Fin.-Sch.	
drawing modified		a	14.10.10	Fin.-Sch.	
Aenderung/modification				Index	Datum/date
Medium:	Konzessionsdaten	Eintritt:	Austritt:		
medium:	design data	inlet:	outlet:		
feed water	Pe: 166 bar	Pe: 5 bar	Temp.: 351 °C		W&T Pos: 006
Kom.:	31521				
Pos.:	FW LC010AA110				
Stck./piece	1				
2010	Datum/date	Name/name	Maßstab scale	Maße ohne Toleranzangabe n. ISO 2768 - m	
Gez./drawn by	07.09.	Lein.			
Gepr./checkby	07.09.	Foe.			
Bez./sign:	RV - 1 - 0 - Ge - ES				
Control Valve					
DN 65/100 PN 250/16					
Ersetzt durch/replaced by Z.Nr./dr.no.O.C					Version: 1 Revision: vom/from
Ersetzt fuer/substitute for Z.Nr./dr.no.O.C58506E-MASa					Version: 1 Revision: a vom/from 14.10.10

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Gueltersteher Str. 257
D-33649 Bielefeld



Z.Nr. /dr. no O.C58506E-MASb
Version: 1 Revision: b



* recommended spare parts
weight with actuator about 150 kg

Mounting position :
spindle vertical

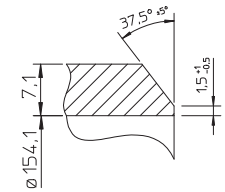
test pressure according to EN 12266-1
for inlet: 368,6 bar
for outlet: 56,9 bar

999	1	actuator				53*	1	profile ring	pure graphite		120/109X15	
227*	1	profile ring	pure graphite		115/107x10	45	8	hexagon nut	1.7218	2510	NFM 24	
220*	1	seat	1.4112			44	8	screw bolt	1.7709+QT	2510	LM24X110	
176*	4	packing ring	pure graphite		38/26X6	4	1	cover	1.7380+QT			
104*	1	spindle+perforated cage trim	1.4122+QT			1	1	body	1.5415		forged body7454	
						no.	piece	denomination	material	DIN	dimension	kg

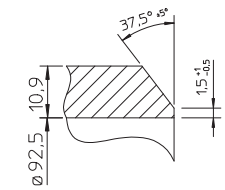
endgueltiges Massblatt / final drawing

Anlage/ plant : Polaniec 450MW CFB Boiler
Anfrage/ inquiry : Kontram Oy
Angebot/ offer : 09/306-005-007-0-0 | 00v.02.09.10

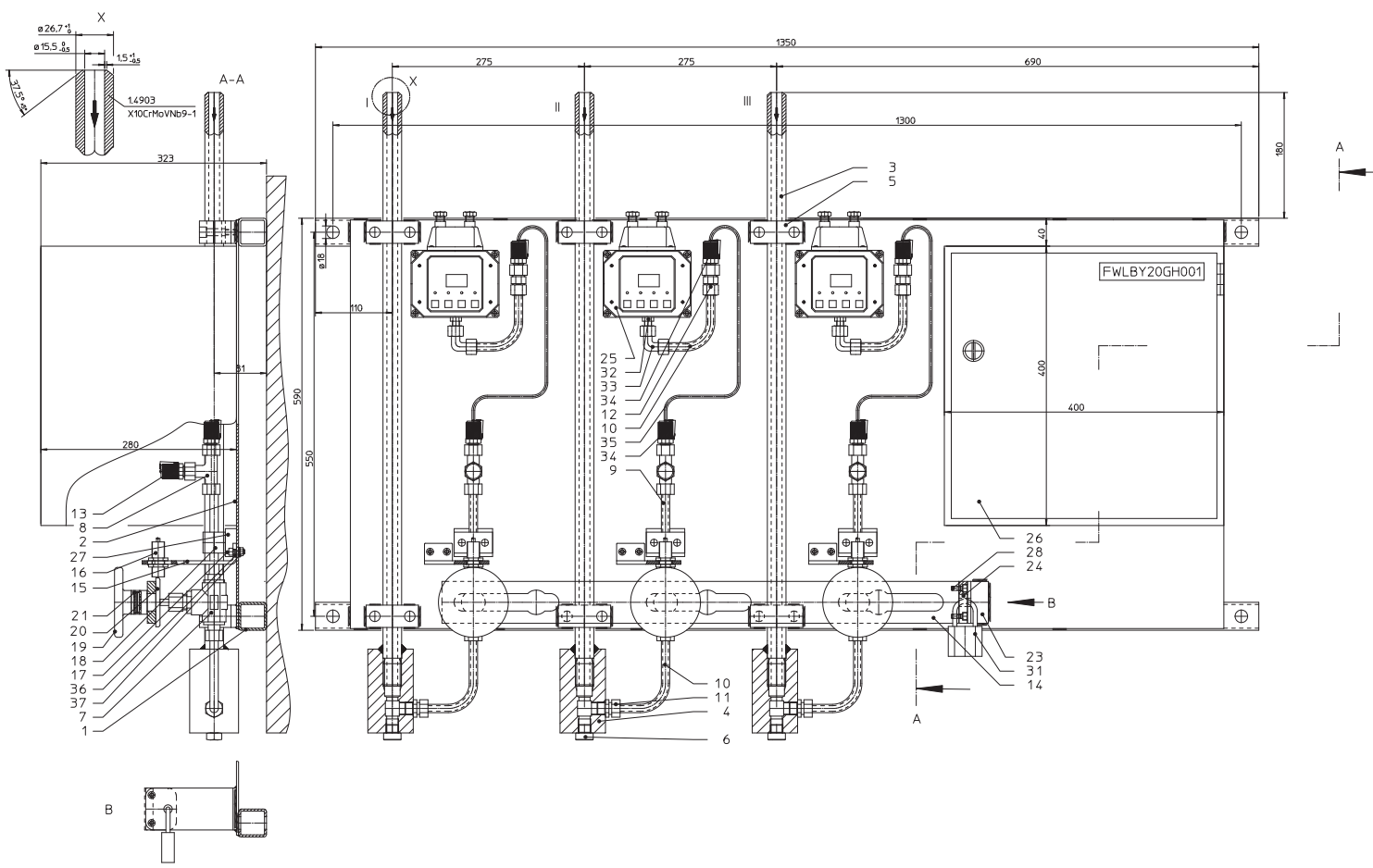
Detail X
welding joint
DIN EN12627,fig.2

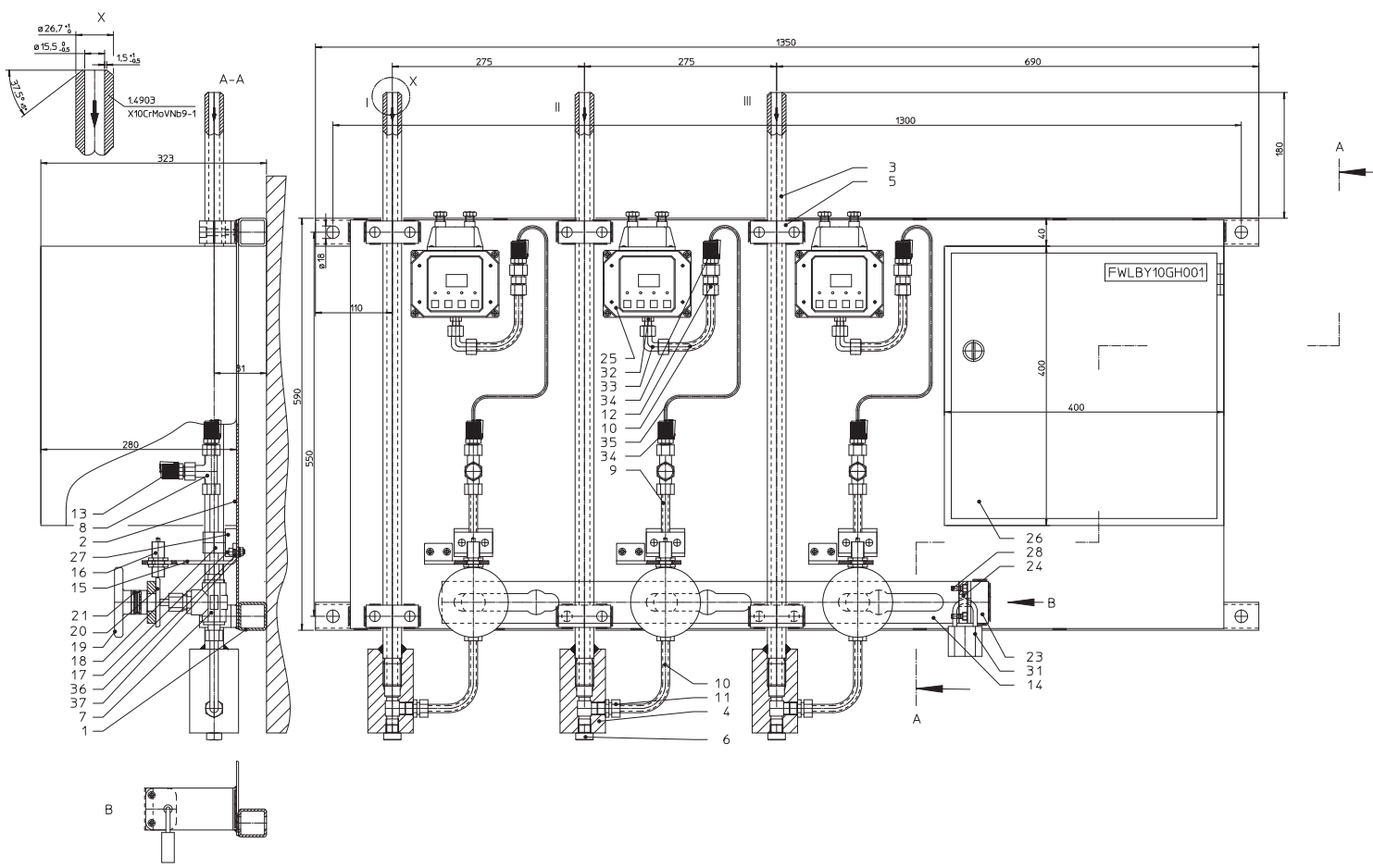


Detail Y
welding joint
DIN EN12627,fig.2



inlet dimension od 114,3x12,5 changed into od 114,3x10,9mm		c	01.03.11	Krs.	
outlet dimension od 168,3x4,5 changed into od 168,3x7,1mm		b	27.01.11	Fin.-Sch.	
drawing modified		a	14.10.10	Fin.-Sch.	
Aenderung/modification				Index	Datum/date
Medium:	Konzessionsdaten	Eintritt:	Austritt:		
medium:	design data	inlet:	outlet:		
	Pe: 166 bar	Pe: 25 bar			
	Temp: 351 °C	Temp: 345 °C			
Kom.:	31521				
Pos.:	FW HAD03AA120				
Stck./piece	1				
2010	Datum/date	Name/name	Maßstab	Maße ohne	WELLAND & TUXHORN AG ARMATUREN- UND MASCHINENFABRIK Postfach 14 10 20 D-33630 Bielefeld Gütelersloher Str. 257 D-33649 Bielefeld
Gez./drawn by	07.09.	Lein.	scale	Toleranzan-	
Gepr./checkby	07.09.	Foe.	-----	gabe n. ISO	
				2768 - m	
Bez./sign: RV - 1 - 0 - Ge - ES					
Control Valve					
DN 100/150 PN 250/40					
Ersetzt durch/replaced by Z.Nr./dr.no.0.C		Version: 1		Revision: vom/from	
Ersetzt fuer/substitute for Z.Nr./dr.no.0.C58507E-MASb		Version: 1		Revision: b vom/from 27.01.11	

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[illegible]