



آگهی فراخوان شناسایی ۱۰/۱۴۰۱/۰۱۳

شرکت پتروشیمی اروند (سهامی خاص) در نظر دارد نسبت به شناسایی شرکت های دانش بنیان فعال و توانمند در زمینه ساخت کمپرسور RECYCLE GAS از نوع سانتریفیوژ با شماره تگ 42C-12060 واحد EDC/VCM (مطابق با مشخصات مندرج در وب سایت شرکت پتروشیمی اروند به شرح ذیل) اقدام نماید:

- 1- DATA SHEET
- 2- DRAWING
- 3- PART LIST
- 4- INSTRUMENT LIST

بدین منظور از شرکت های فعال در این زمینه دعوت می شود اسناد و مدارک ذیل را حداکثر تا ساعت ۱۴:۰۰ روز **سه شنبه مورخ ۱۴۰۱/۱۰/۲۰** به نشانی استان خوزستان - بندر امام خمینی - منطقه ویژه اقتصادی پتروشیمی - سایت ۳ - کد پستی ۶۳۵۶۱۷۸۷۳۴ امور حقوقی و پیمانها شرکت پتروشیمی اروند تحویل نمایند:

الف- اساسنامه، آگهی تاسیس، پروانه فعالیت

ب- معرفی کارخانه یا کارگاه

ج- سوابق اجرایی کار مشابه یا مرتبط

د- رزومه علمی و فنی

ه- سوابق گواهی حسن انجام کار مشابه یا مرتبط با کار

و- معرفی نفر فنی (رابط) به همراه شماره تماس (موبایل)

(۱) بر روی پاکت ارسال مدارک، موضوع و شماره فراخوان مندرج گردد.

(۲) به پاکت های ارسالی که پس از تاریخ مندرج در آگهی تحویل گردد؛ ترتیب اثر داده نخواهد شد.

(۳) متقاضیان در صورت نیاز به اطلاعات فنی بیشتر میتوانند با شماره تلفن: ۰۶۱۵۲۱۲۶۰۲۲ و جهت اطلاعات حقوقی با تلفن: ۰۶۱۵۲۱۲۶۴۷۴ تماس حاصل نمایند.

(۴) تصویر آگهی به همراه شرح مختصر کار از طریق نشانی اینترنتی www.arvandpvc.ir قابل ملاحظه می باشد. شایان ذکر است این فراخوان صرفاً جهت شناسایی می باشد.

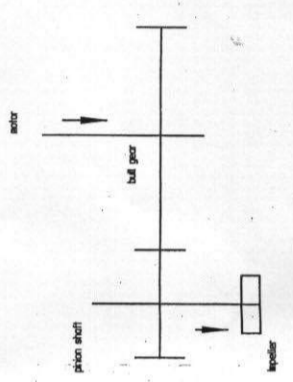
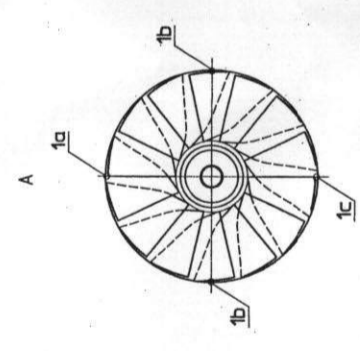
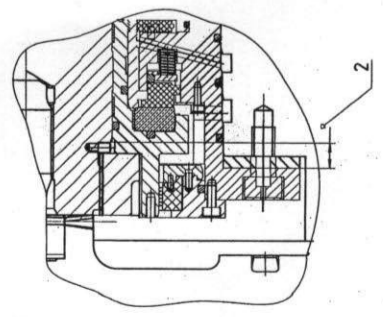
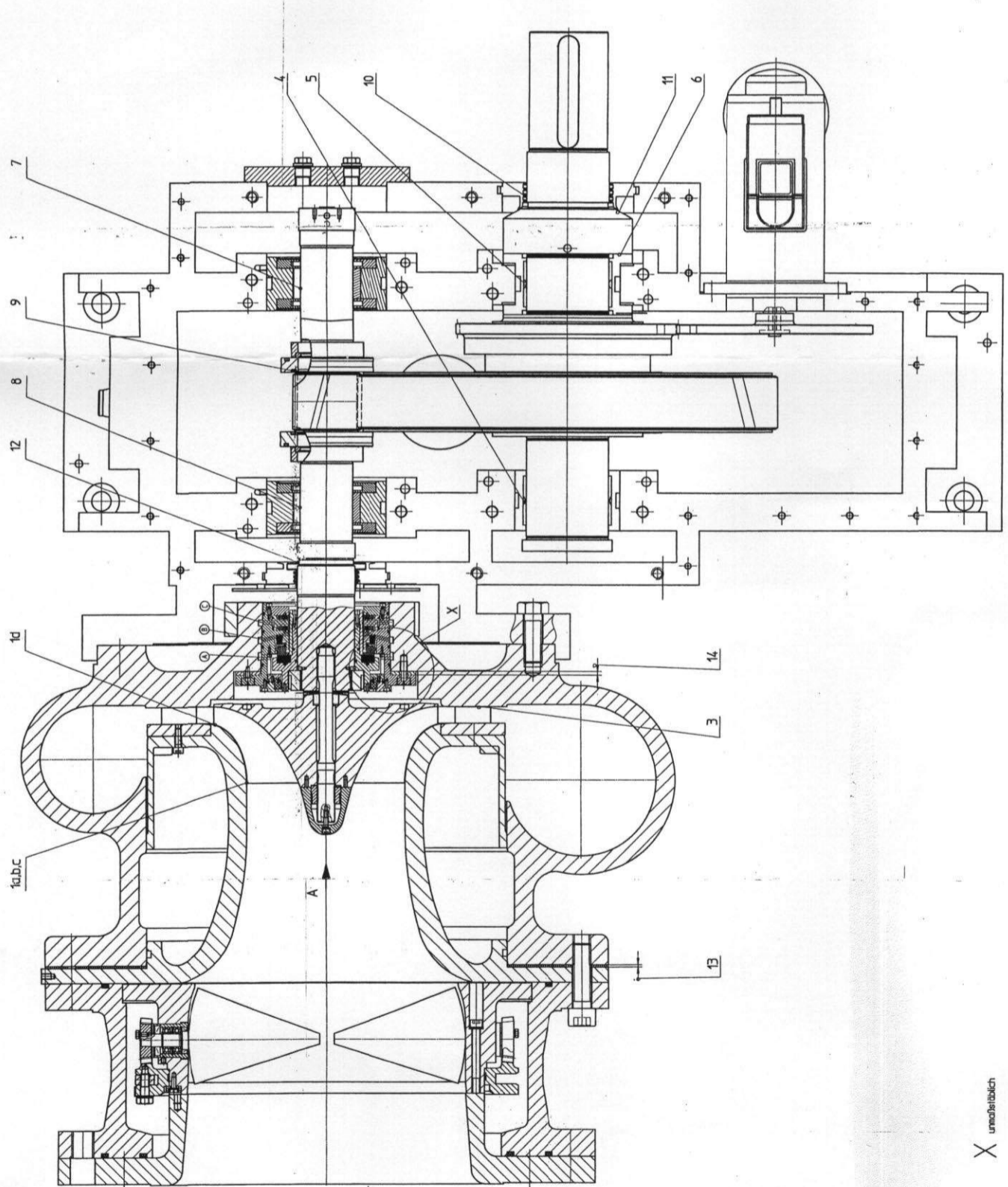
Important technical data and tolerances for PU- RECYCLE GAS COMPRESSOR 42U-12060 TYPE:GXP 110
PVC PLANT, ARVAND COMPLEX

The following condition must be met before starting up
Drawing Reference is : 8408205-CB-RE-VDP-0012-007

Measuring points	Minimum nominal allowance (mm)	Minimum nominal allowance(mm)	ACTUAL allowance(mm)
1- point a	0.65	0.75	0.65
1- point b	0.65	0.75	0.65
1- point c	0.65	0.75	0.65
1- point d	0.65	0.75	0.65
2	10.8	11.2	11.1
3	0.1	0.2	----
4	0.120	0.164	0.16
5	0.120	0.164	0.16
6	0.130	0.190	0.18
7	0.150	0.182	0.18
8	0.150	0.182	0.18
9	0.2	0.238	0.19
10	0.120	0.190	0.15
11	0.3	0.8	0.5
12	0.150	0.182	0.17
13 Shims thk.			
14 Shims thk.			
Axial run-out of the impeller		Max.:0.2 mm	0.18
Radial run-out of the impeller		Max.:0.02 mm	0.015
Oil flushing is done with Renolin interna 46 about 24 hours with 5 micron mesh before gear box, and remove after flushing.			
IGV checked before install in all positions.			

Messstelle 4 bis 12 bei RENK gemessen.
 Bei den Messstellen 4, 5, 7, 8, 9 und 12 sind die Wellenspiele auf den Durchmesser bezogen, sämtliche anderen Wellenspiele sind auf den Radius bezogen.
 Basis für die Spielkontrolle und Bestimmung der Bauteildicke (Messstellen 13 und 14) ist, daß die Laufradinnenkontur am Austritt des Laufrades (Spitzen) gegenüber Nüchtheit und die Ritzzeile und Radweite in Richtung Laufrad geschoben wird.
 Stirnlaufabweichung des Laufrades
 max. 0,2 mm
 Rundlaufabweichung des Laufrades
 max. 0,02 mm
 Turbokompressoren auf Einhaltung PVS 78421/01 geprüft.

Messungspunkte 4 bis 12 sind bei RENK.
 At the measuring points 4, 5, 7, 8, 9 and 12 the shaft plays are referring to the diameter, while all the other shaft plays are referring to the radius.
 The basis for the play checking and for the specification of the thickness of rims (measuring points 13 and 14) is, that the internal profile of the impeller will be aligned towards the diffuser side (valute type casing wall) at the outlet, and the pinion shaft and the gear shaft are be pushed to the impeller-side.
 Axial run-out of the impeller max. 0,2 mm ; actual allowance :
 Radial run-out of the impeller max. 0,02 mm ; actual allowance :
 Turbokompressoren have been checked for observance of PVS 78421/01



Messstelle meas. point	Sollabmessungen nominal allowance		Toleranz tolerance
	minimale minimal	maximale maximal	
a	0,65	0,75	
1 b	0,65	0,75	
c	0,65	0,75	
d	0,65	0,75	
2	10,8	11,2	
3	0,1	0,2	
4	0,120	0,164	
5	0,120	0,164	
6	0,130	0,190	
7	0,150	0,192	
8	0,150	0,192	
9	0,20	0,238	
10	0,120	0,190	
11	0,3	0,8	
12	0,150	0,192	
13	-	-	
14	-	-	

Dwg. No.	Description	Dwg. No.	Description
Reference	document/belong to drawing		
OWNER:	National Petrochemical Company Arvand Petrochemical Company		
PROJECT:	PVC ARVAND		
CONTRACTORS:	Uhde		
HDE check stamp			
Scale:	Item	Order	Quantity
	Date	Issue checked	U.A.N. 03-3039-402
	Name		PLANT: EDK/VCH
TON	120K060	Equipment designation:	Recycle Gas Compressor
Item No.	42C-12060	Order No.	34037050
Engineered by:	UHDE GMBH	Client Doc. No.:	8408205-CB-RE-VDP-0012-007
Type of Drawing:	Turbocompressor Measuring sheet	Manufacturer:	AG K&K
Manufacturer:	AG K&K	Business Unit	PGW Turbo
Business Unit	PGW Turbo	ME Dwg. No.:	
Rev.			
1			

Z M5104031-MB/A0 1 1

Meißeilstelle measuring point	Spielmaße / clearances	
	axial	radial
a	0.45	0.5
b	0.45	0.5
c	0.45	0.5
d	0.45	0.5
1	-	-
2	-	-
3	0.1	0.15
4	0.100	0.144
5	0.100	0.144
6	0.130	0.190
7	0.110	0.137
8	0.110	0.137
9	0.150	0.219
10	0.300	0.435
11	0.110	0.170
12	0.110	0.151
13	-	-
14	-	-
15	-	-

Meißeilstelle 4 bis 12 bei RENK gemessen. Bei den Meißelstellen 4, 5, 6, 7, 8, 9, 10, 11, 12 sind die Wellenspiele auf den Durchmesser bezogen, sämtliche anderen Wellenspiele sind auf den Radius bezogen.

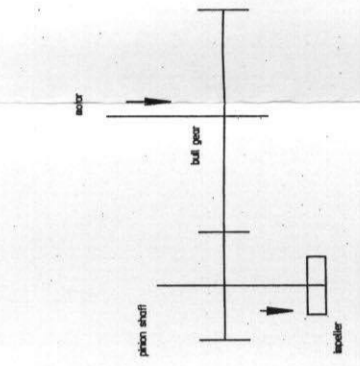
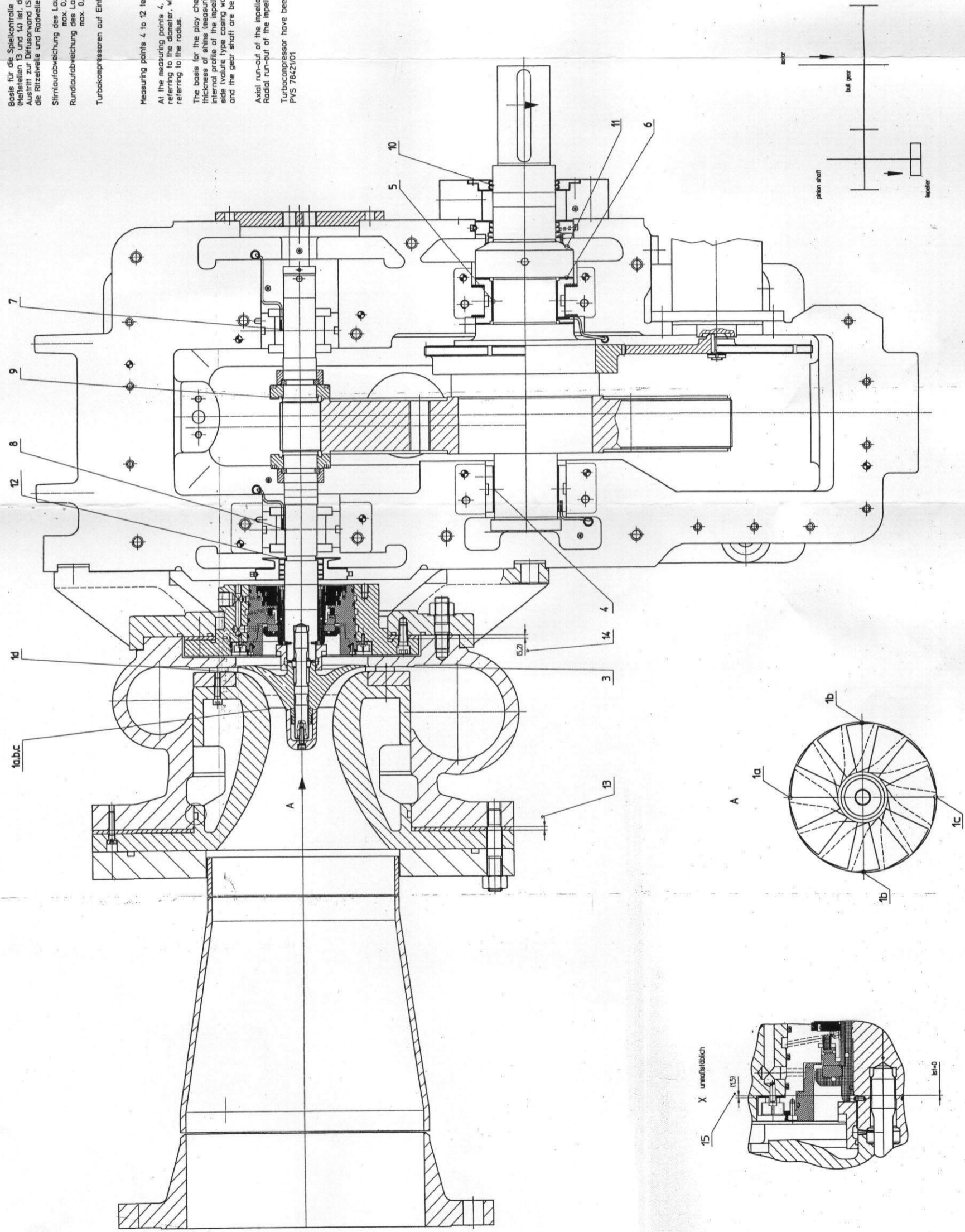
Basis für die Spielkontrolle und Bestimmung der Belegdicke (Meißelstellen 13 und 14) ist, daß die Laufdrinnenkontur am Austritt zur Diffusorwand (Spitzgehäuse) fluchtet und die Ritzelwelle und Radwelle in Richtung Laufrad geschoben wird. Spielabweichung des Laufrades max. 0.2 mm istmaß! Rundlaufabweichung des Laufrades max. 0.02 mm istmaß! Turbokompressoren auf Erhaltung PVS 7842/01 geprüft.

Measuring points 4 to 12 tested by RENK.

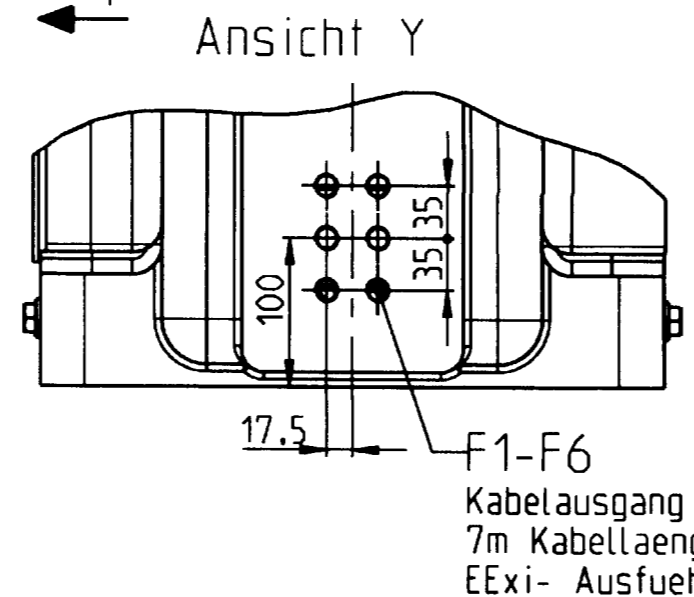
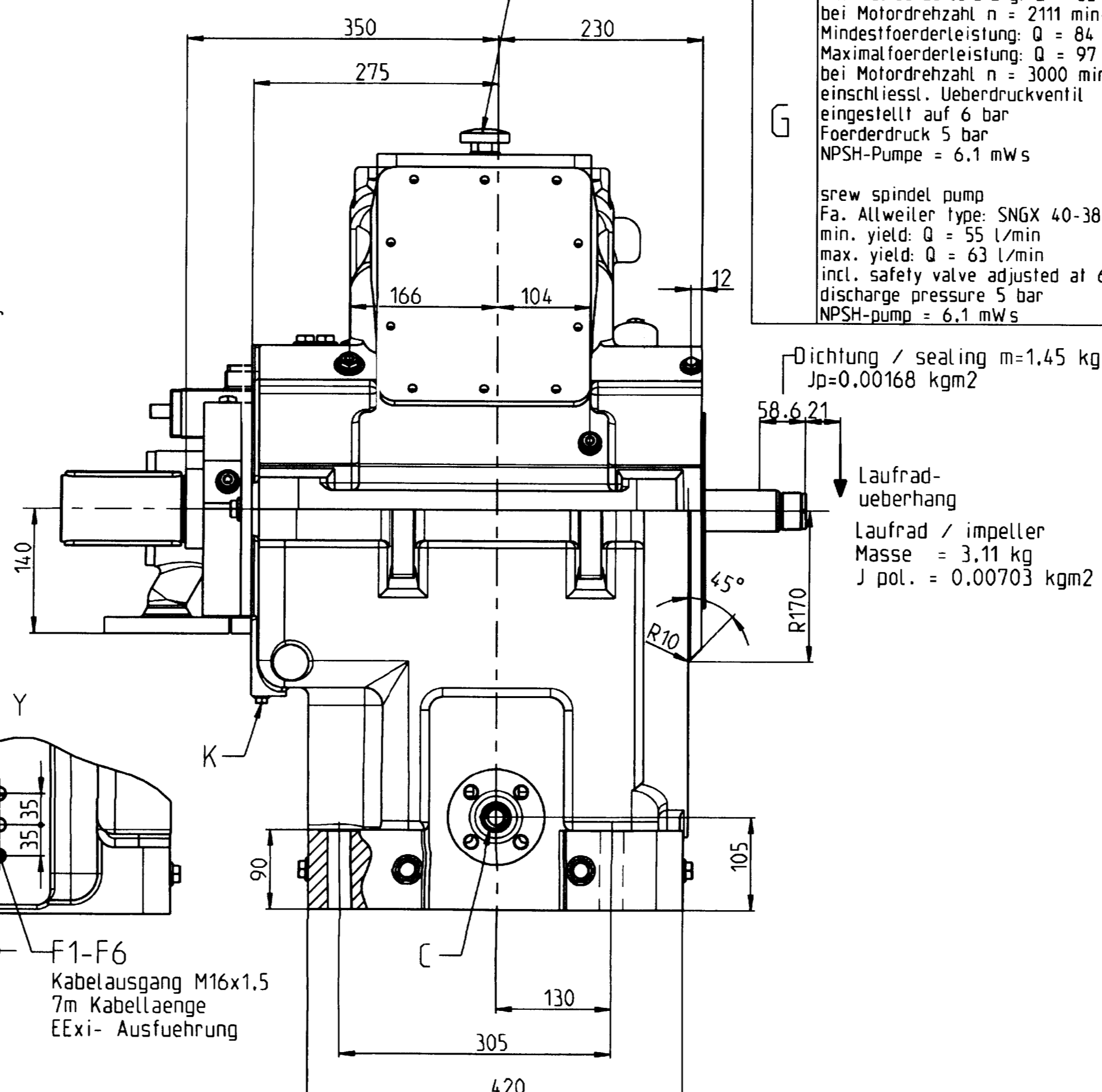
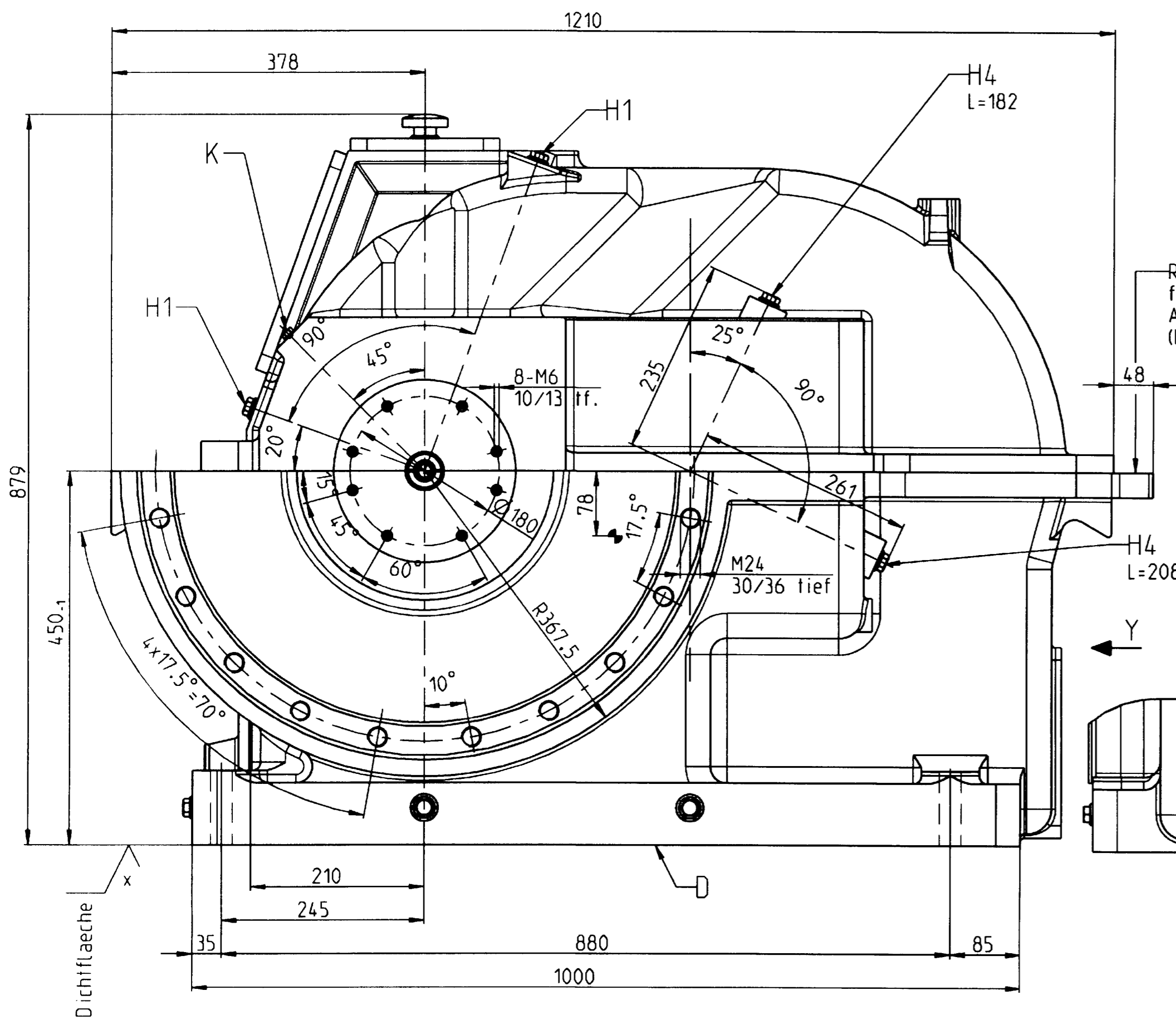
At the measuring points 4, 5, 6, 7, 8, 9, 10, 11, 12 the shaft plays are referring to the diameter, while all the other shaft plays are referring to the radius.

The basis for the play checking and for the specification of the thickness of shims (measuring points 13 and 14) is the internal profile of the impeller and its contact with the diffuser side (spiral housing) at the outlet, and the pinion shaft and the gear shaft are be pushed to the impeller-side.

Axial run-out of the impeller max. 0.2 mm, actual allowance: Radial run-out of the impeller max. 0.02 mm, actual allowance: Turbokompressor have been checked for observance of PVS 7842/01



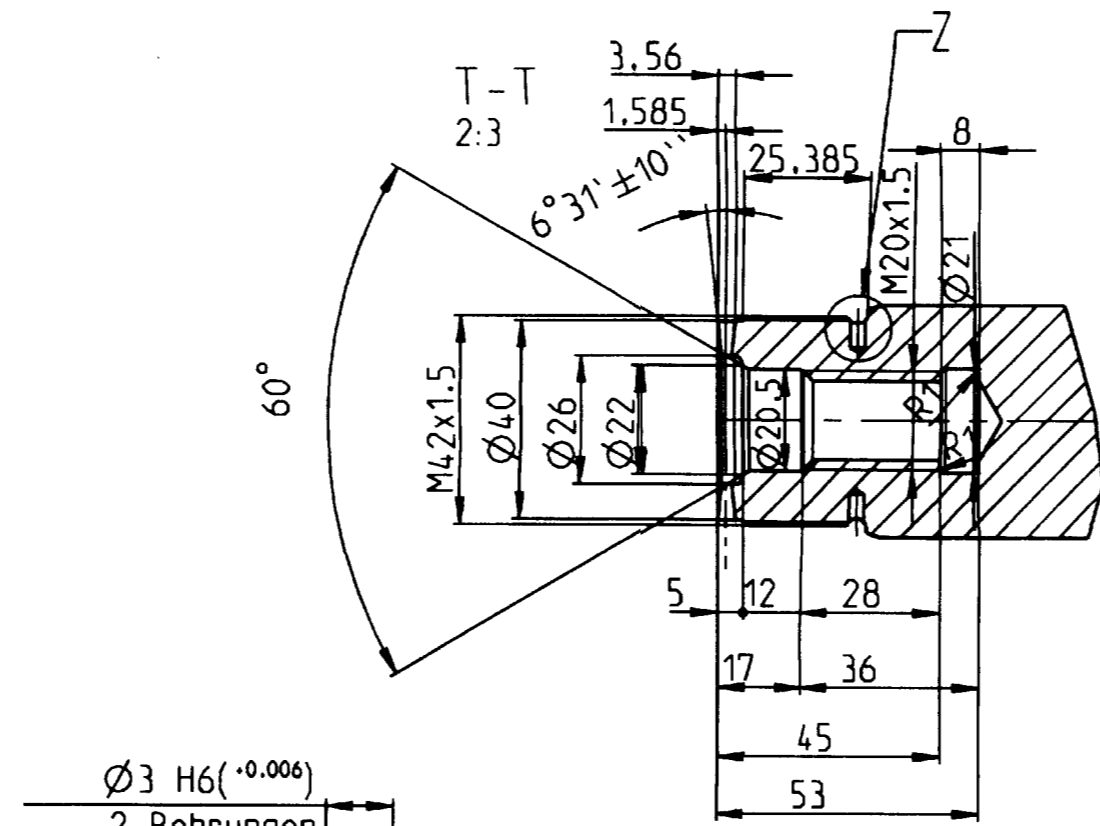
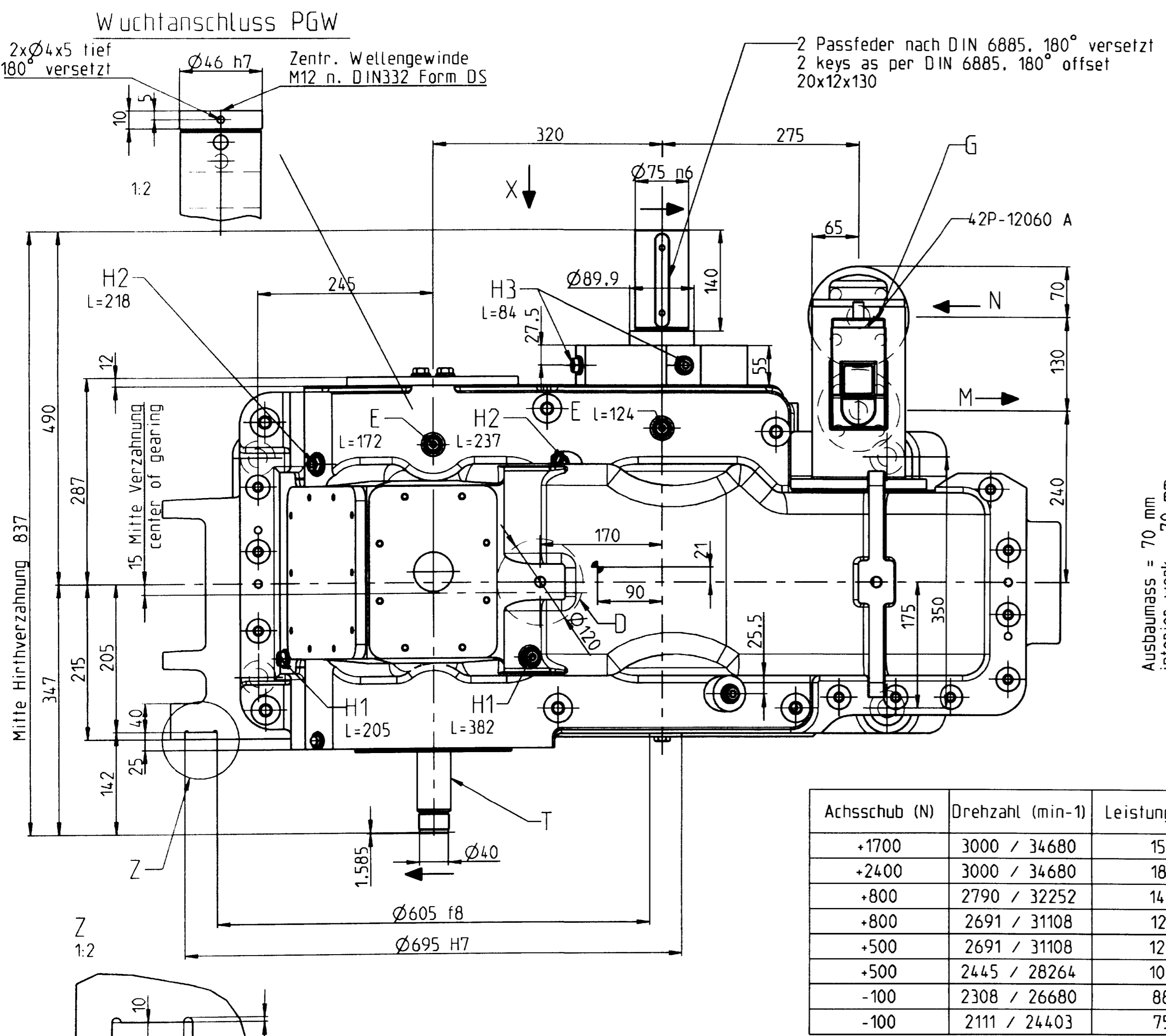
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	REFERENCE DOCUMENTS/going to drawing																
OWNER:																	
Historial Petrochemical Company Aryvand Petrochemical Company																	
PROJECT: PVC ARYAND																	
CONTRACTOR: Uhde																	
PPE check stamp:																	
Revision: <table border="1"> <tr><td>Date</td><td>User</td><td>Checked</td><td>Welding method</td><td>Design check</td><td>UAN:</td><td>03-3039-602</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td>PLANT:</td><td>EDC/ND</td></tr> </table>				Date	User	Checked	Welding method	Design check	UAN:	03-3039-602						PLANT:	EDC/ND
Date	User	Checked	Welding method	Design check	UAN:	03-3039-602											
					PLANT:	EDC/ND											
TON	120K080	Equipment designation:	HCL Compressor														
Item No.	42C-12080	Order No.:	34037050														
Engineered by:	UHDE GMBH	Client Doc. No.:															
Type of Drawing:	Turbocompressor	MEASURING SHEET	8408205-CB-RE-VDP-0012-007														
Manufacturer:	AG KKKK	W.E. Job No.:															
Business Unit:	P/W Turbo	W.E. Dwg. No.:															
1. 03.08.05 Franke/D. Detrich/Moeller 2. 02.06.05 Franke/D. Detrich/Moeller		1. 03.10.03 2. 03.10.03															
M5104041MB Measuring sheet Turbocompressor GXP-20 Uhde Fan																	
Z M5104041-MB A01 1 1 1																	



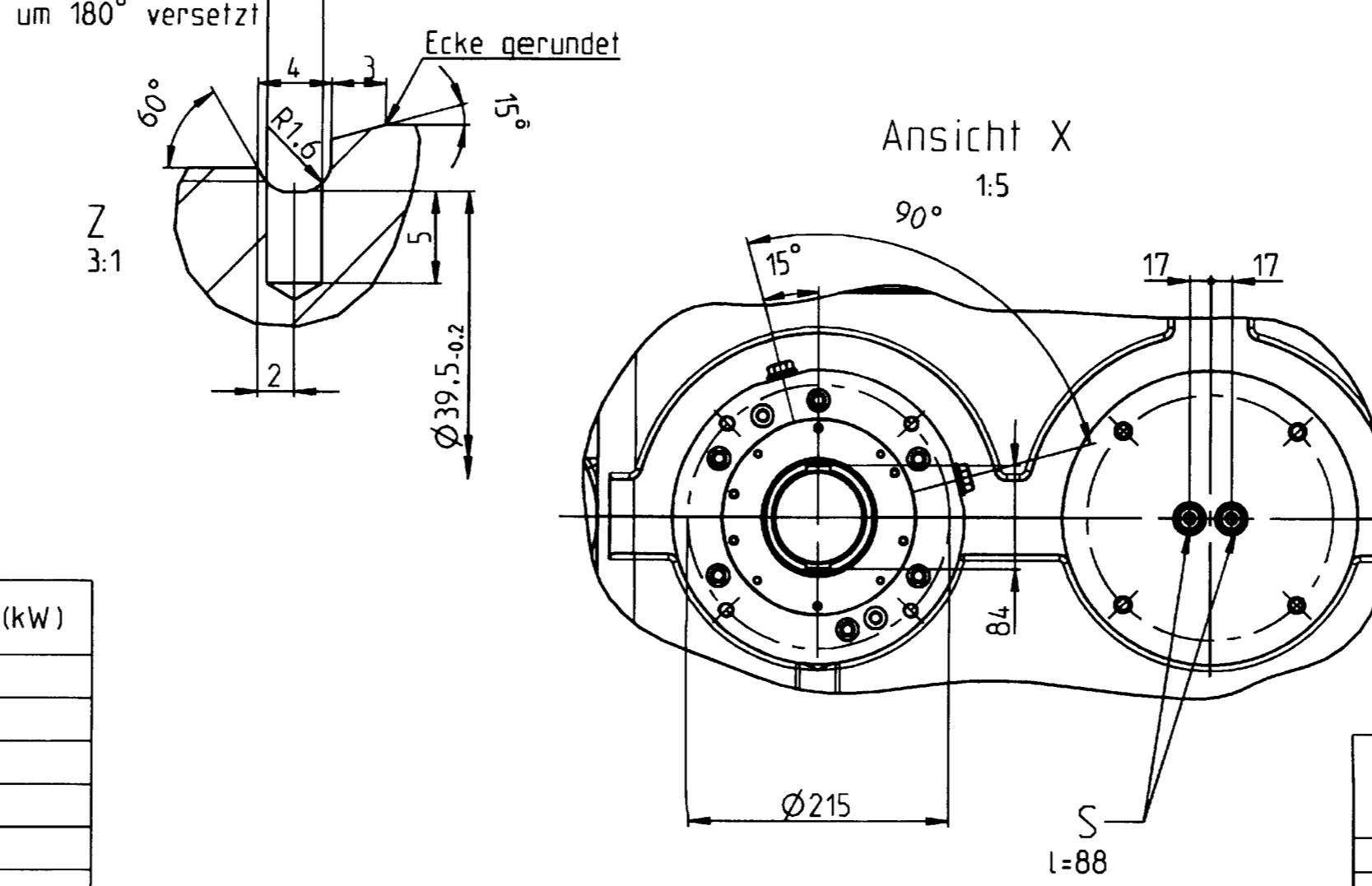
Messstelle	Anzahl	Messelement	Lieferant	Anschluss	Anschlussart / Type	Messfühler
H1	2	Schwingsungsmessfühler vibration probes	provision	M10x1	M10x1 in G1/2 mit Verschlusschraube verschlossen	verschlossen closed with screw plug
H2	2		provision	M10x1	M10x1 in G1/2 mit Verschlusschraube verschlossen	verschlossen closed with screw plug
H3	2		provision	M10x1	M10x1 in G1/2 mit Verschlusschraube verschlossen	verschlossen closed with screw plug
H4	2		provision	M10x1	M10x1 in G1/2 mit Verschlusschraube verschlossen	verschlossen closed with screw plug
S	2	Axialstandsgeber	provision	M10x1	M10x1 in G1/2 mit Verschlusschraube verschlossen	verschlossen closed with screw plug
E	2	Keyphasor	provision	M10x1	M10x1 in G1/2 mit Verschlusschraube verschlossen	verschlossen closed with screw plug
K	2	Sperrluft air barrier	provision	G1/4	mit Verschlusschraube verschlossen	verschlossen closed with screw plug
F1	1	Temperaturmessfühler temperature probes	RENK AG	M16x1.5	2x PT100 / 3-Leiterschaltung (wire)	7m Kabel aufgewickelt am Gehäuse befestigt.
F2	1		RENK AG	M16x1.5	2x PT100 / 3-Leiterschaltung (wire)	7m Kabel aufgewickelt am Gehäuse befestigt.
F3	1		RENK AG	M16x1.5	2x PT100 / 3-Leiterschaltung (wire)	7m Kabel aufgewickelt am Gehäuse befestigt.
F4	1		RENK AG	M16x1.5	2x PT100 / 3-Leiterschaltung (wire)	7m Kabel aufgewickelt am Gehäuse befestigt.
F5	1		RENK AG	M16x1.5	2x PT100 / 3-Leiterschaltung (wire)	7m Kabel aufgewickelt am Gehäuse befestigt.
F6	1		RENK AG	M16x1.5	2x PT100 / 3-Leiterschaltung (wire)	7m Kabel aufgewickelt am Gehäuse befestigt.

Schmieröl- Betriebsdruck standard	1.7±0.2 bar 1.3 bar alarm 1.1 bar stop	Getriebe 55 L/min bei Motordrehzahl n = 2111 min-1 bei Regelung auf 3000 min-1 ist die Mehrfordermenge ueber ein Ueberstromventil abzufuehren. ISO-Viskositätsklasse VG 46 Ölvorschritt siehe Montage- Wartungs- und Schmiervorschrift fuer RENK-GETRIEBE Schadenskraftstufe (FZG) =7	C	Druckanschluss Vorschweißflansch pressure connection welding neck flange ANSI B16.5 150 lb. 1" (DN25) S137
Schmieröl- betriebs-temperatur standard (Oeleintritt)	47°C		D	Ölreturnlauf ohne Flansch. Fussfläche eben bearbeitet Bohrung zum Transport verschlossen. Oil outlet without flange. Joint plane planar. Bore closed to transport.
lube oil working pressure standard	1.7±0.2 bar 1.3 bar alarm 1.1 bar stop	Quantity of oil 55 L/min ISO-viscosity class VG 46 See oil instructions of assembly, maintenance and lubrication instruktions for RENK GEARS load stage (FZG) =7	M	Druckanschluss Pumpe pressure connection pump DN 25 / PN 40 Flanschloecher nach ANSI 150 lb. gebohrt Lochkr. Ø79.4 4Bohrg.Ø16
lube oil working temperature standard (oil entree)	47°C		N	Sauganschluss Pumpe suction connection pump DN 32 / PN 40 Flanschloecher nach ANSI 150 lb. gebohrt Lochkr. Ø88.9 4Bohrg.Ø16 Wir empfehlen die Saugleitung auf DN 40 zu vergrössern.

n krit. I = 14131 min-1 starr
n krit. II = 65680 min-1 starr
n krit. I = 14131 rpm rigid
n krit. II = 65680 rpm rigid



Hirth Verzahnung:
beidseitig kegelig
Zahnezahl z=24
Zahnhoehe h=3.570
Fraeswinkel a=6°31'07"
Drehwinkel a=6°31'±10"
Radius r=0.3
Spitzenspiel s=0.4
Werkzeugwinkel = 60°



Achsschub (N)	Drehzahl (min-1)	Leistung (kW)
+1700	3000 / 34680	155
+2400	3000 / 34680	181
+800	2790 / 32252	144
+800	2691 / 31108	121
+500	2691 / 31108	120
+500	2445 / 28264	100
-100	2308 / 26680	88
-100	2111 / 24403	75

Axialschub -Stillstand
F ax. max. = -1700 N
Achsschub min. -100 N. max. +4000 N bei 3000 min-1

Leistungsdaten ratings
P Motor= 300 kW
P Verdichter= 211 kW
Ausleistung: P = 300kW
n = 3000 / 34680 min.⁻¹
Antriebsdrehzahlbereich
n = 2111 bis 3000 min-1
Leistungsbereich P = 95 bis 190 kW
i = 1 : 11.56
Besteller : AG Kuehntle, Kopp & Kausch.
customer : Geschaefteinheit PGW Turbo
Bestell-Nr.: 007-129081
order-no.
Kennwort: PVC Arvand Iran
code
RENK-Kom.-Nr.: 854184
Renk-com.-no.
Abzufuehrende Waermemenge fuer Getriebe ca. 23kW
heat quantity to be dissipated for gear
Leerlaufverlustleistung ca. 22kW
no-load power dissipation
Masse verbindlich
dimensions are binding
Radsatz dynamisch gewuchtet Q=2.5 (Riw.= Q1.0)
wheel set dynamically balanced
Gewicht ca.950kg, davon Oberteil ca. 140kg
wight approx. upper low part of housing

Getriebeausfuehrung nach API 672
mit Abweichung nach Datenblatt vom 03.04.2003

Dwg. No.	Description	Dwg. No.	Description
Reference documents/belong to drawing			
OWNER : ARVAND PETROCHEMICAL COMPANY			
PROJECT : PVC ARVAND			
CONTRACTORS : UHDE SAZEH			
UHDE check stamp : 8408205-CB-RE-VDP-0012-0019			
Scale: 1:1			
Date: 03-30-39-602			
PLANT: EDC/VCM			
TON: 120U080		Equipment designation: High Speed Gear Unit	
Item No.: 42U-12080		For HCL Compressor 1	
Engineered by: UHDE GMBH		Order No.: 34037050	
Type of Drawing: dimension drawing		Critical Doc. No.: 8408205-CB-RE-VDP-0012-019	
Manufacturer: RENK AG		Mfr. Job No.: 854184	
		Mfr. Dwg. No.: 0794159	

Verwendungsbereich / Type / Grösse	Allgemeintol. ISO 2768-mH	Oberfl. ISO 1302	Massstab 1:5	A1	Gewicht 1040,7 kg
THGD-320	Tolerierung ISO 8015		Werkstoff		Traegheitsmoment J 0,000 kgm ²
Benennung Turbogetriebe High Speed Gear Unit					
Zeichnungsnummer 0794159					
DST-Var. 4 AEND-Ind. Blatt 1					
Entst.aus 0767555					

• -Schwerpunkt
centre of gravity

Kundenseitig verlegte Rohre muessen frei von Fremdkoerpern und Zunder sein.
all pipes installed by the customer must be free of all foreign parts
Alle Gewindeloecher sind mit Verschlusschrauben verschlossen.
all the threaded holes are closed with screw plugs

Alle Anschlussgewinde am Gehäuse mit Verschlusschraube verschlossen.

G1/2	Pos. 1175
M10x1	Pos. 1176
G1/4	Pos. 1177

Mit Drehmomentschlüssel angezogen.
tightened by torque wrench

Pos. 1200 Ma= 320Nm
Pos. 1210 Ma= 40Nm
Pos. 1202 Ma= 170Nm

F1 - F6 = Pos. 6080

Druckeinstellung:

Verschlusschraube aussen = Pos. 1171
Einstellschraube = Pos. 1172

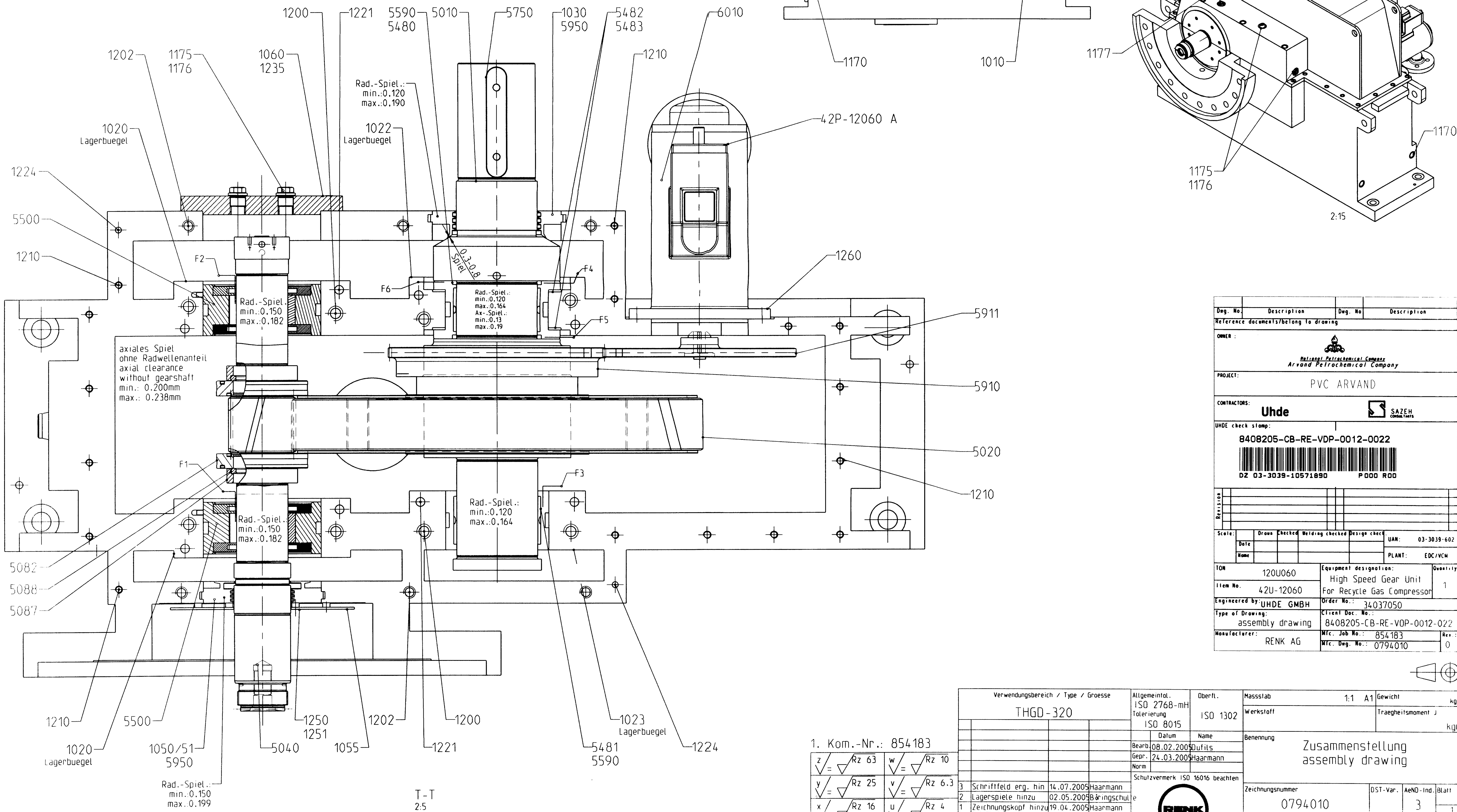
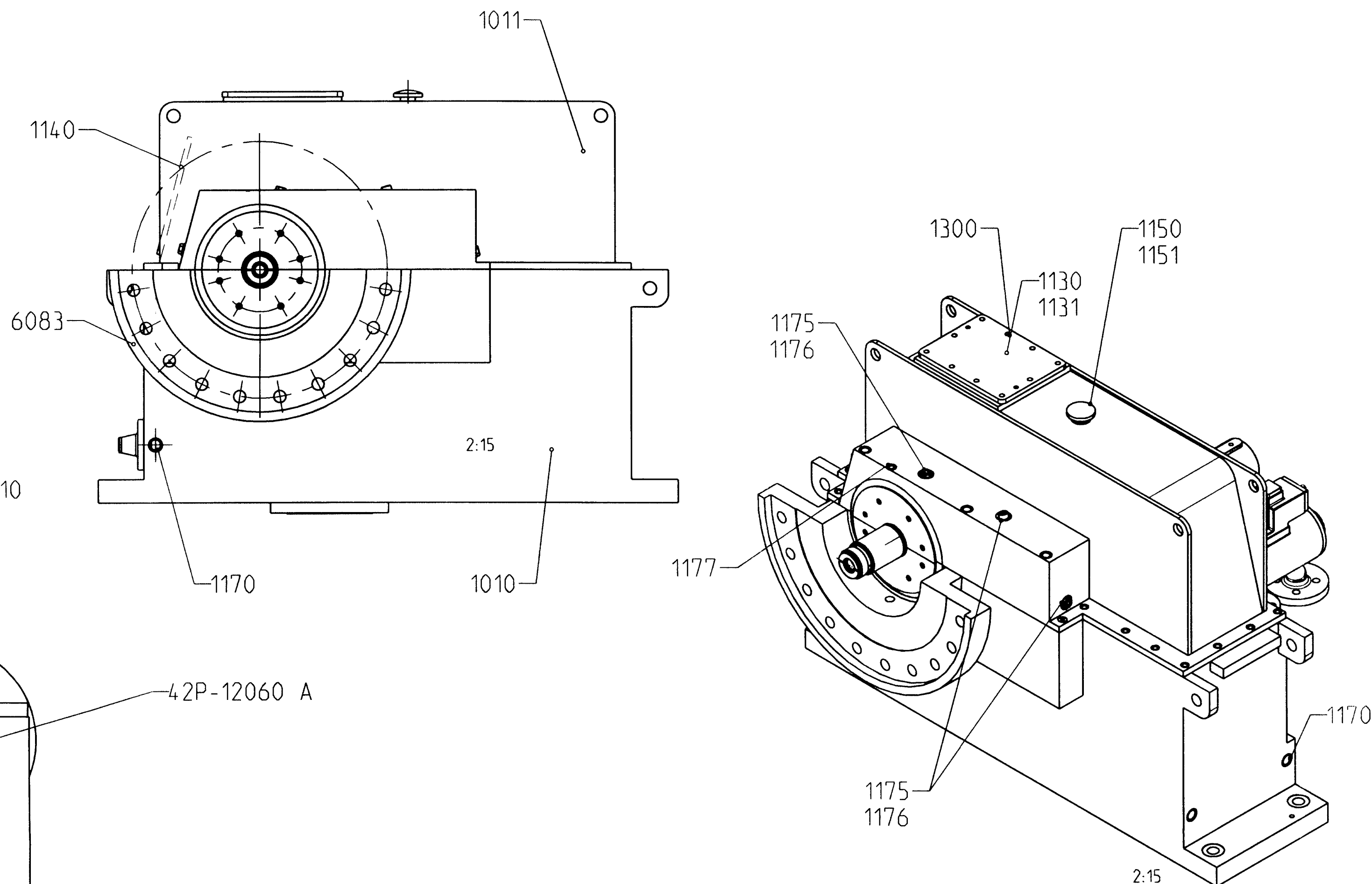
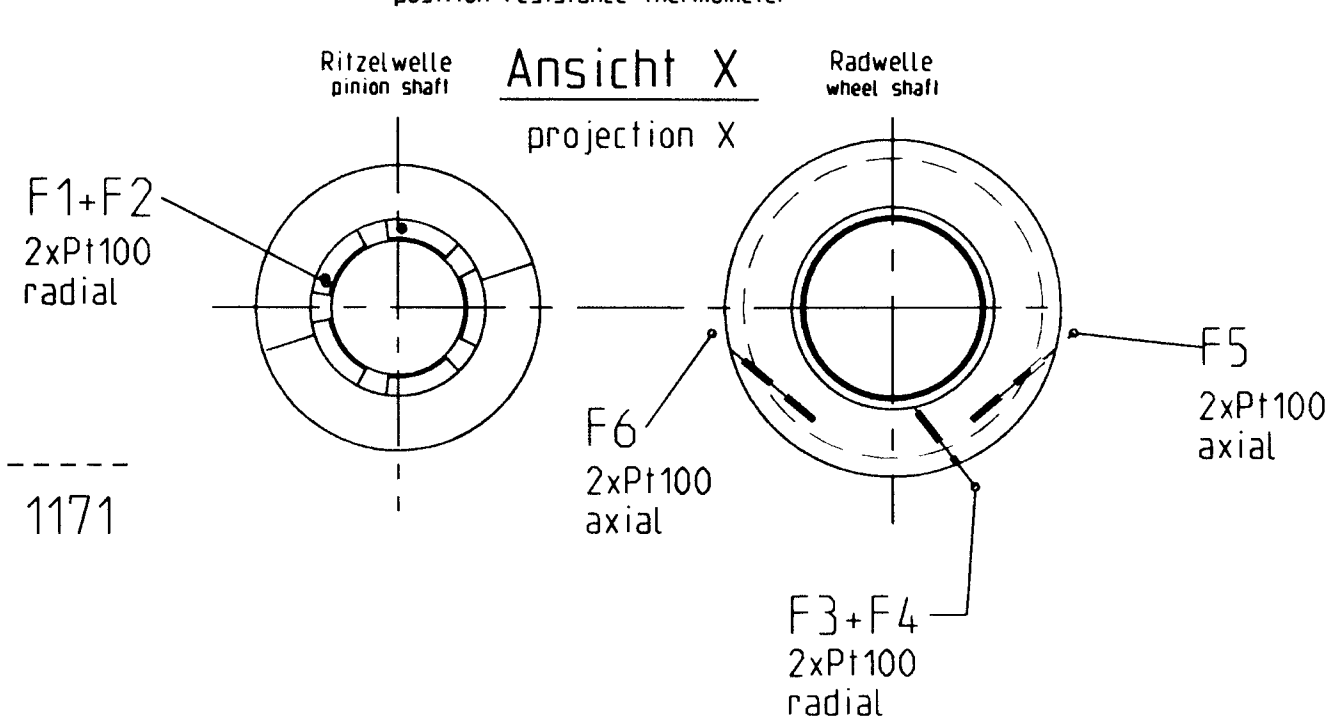
Lagerbuegel Pos. 1020 kennzeichnen

Oelanschluss Pu-Radsatz

Verschlusschraube aussen = Pos. 1171

Lage der Widerstandsthermometer

position resistance thermometer

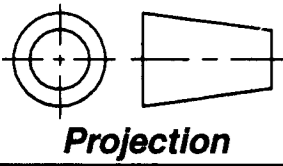


Dwg. No.	Description	Dwg. No.	Description																
Reference documents/belong to drawing																			
OWNER:																			
PROJECT: PVC ARVAND																			
CONTRACTORS: Uhde																			
UHDE check stamp: 8408205-CB-RE-VDP-0012-0022																			
DZ 03-3039-10571890 P 000 RDD																			
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Date	Drawn	Checked	Welding	Checked	Design	check	UAN												
							03-3039-602												
PLANT: EDC/VCM																			
ION	120U060	Equipment designation:	Quantity																
Item No.	42U-12060	High Speed Gear Unit	1																
Engineered by:	UHDE GMBH	Order No.:	34037050																
Type of Drawing:	assembly drawing	Client Doc. No.:	8408205-CB-RE-VDP-0012-022																
Manufacturer:	RENK AG	Mfc. Job No.:	854183																
		Mfc. Dwg. No.:	0794010																

1. Kom.-Nr.: 854183

z	=	Rz 63	w	=	Rz 10
y	=	Rz 25	v	=	Rz 6.3
x	=	Rz 16	u	=	Rz 4

Verwendungsbereich / Type / Grösse	Allgemeintol. ISO 2768-mH Tolerierung ISO 8015	Oberfl. ISO 1302	Massstab 1:1 A1	Gewicht kg
THGD-320			Werkstoff	Trägheitsmoment J kgm ²
Datum Name	Benennung Zusammenstellung assembly drawing			Zeilchennummer
Bearb. 08.02.2005 Dufits				DST-var. AenD-Ind. Blatt 1
Gepr. 24.03.2005 Haarman				3 1 Bl.
Norm				
Schutzvermerk ISO 16016 beachten				
Schiffeld erg. hin 14.07.2005 Haarman				
Lagerspiele hinzu 02.05.2005 Bringschulte				
Zeichnungskopf hinzu 19.04.2005 Haarman				
Aenderung Datum Name				
RENK AG Werk Rheine				U/034/3111



Modifications: - Issue "A" Original
 Änderungen: - Erste Ausgabe

"A" F03/0503/0000
 "B" F03/0504/2878 13.04.05 SP/TM
 "C" F03/0507/3252 11.07.05 SP/MM
 "D" F03/0508/3387 16.08.05 MM/KU

Order code: 0151/SF/LB/D33822

LEGEND

	STOP VALVE
	GLOBE VALVE
	NEEDLE VALVE
	BALL VALVE
	CHECK VALVE
	RESTRICTING ORIFICE
	FLOW INDICATOR
	FLOW INDICATOR & SWITCH
	FLOW INDICATOR & TRANSMITTER
	PRESSURE DIFF. GAUGE
	PRESSURE TRANSMITTER
	PRESSURE GAUGE
	PRESSURE INDICATOR & SWITCH
	PRESSURE DIFF. INDICATOR & SWITCH
	PRESSURE CONTROL VALVE

SYSTEM - DESIGN AND TEST

TEST - MEDIUM DRY & OIL-FREE AIR OR N2

QUOTED	PRESS. RATING	DESIGN t in °C	P in bar g	TEST bar g / 20 °C
X	PN 15	85	15	22,5
X	PN 15	165	15	22,5

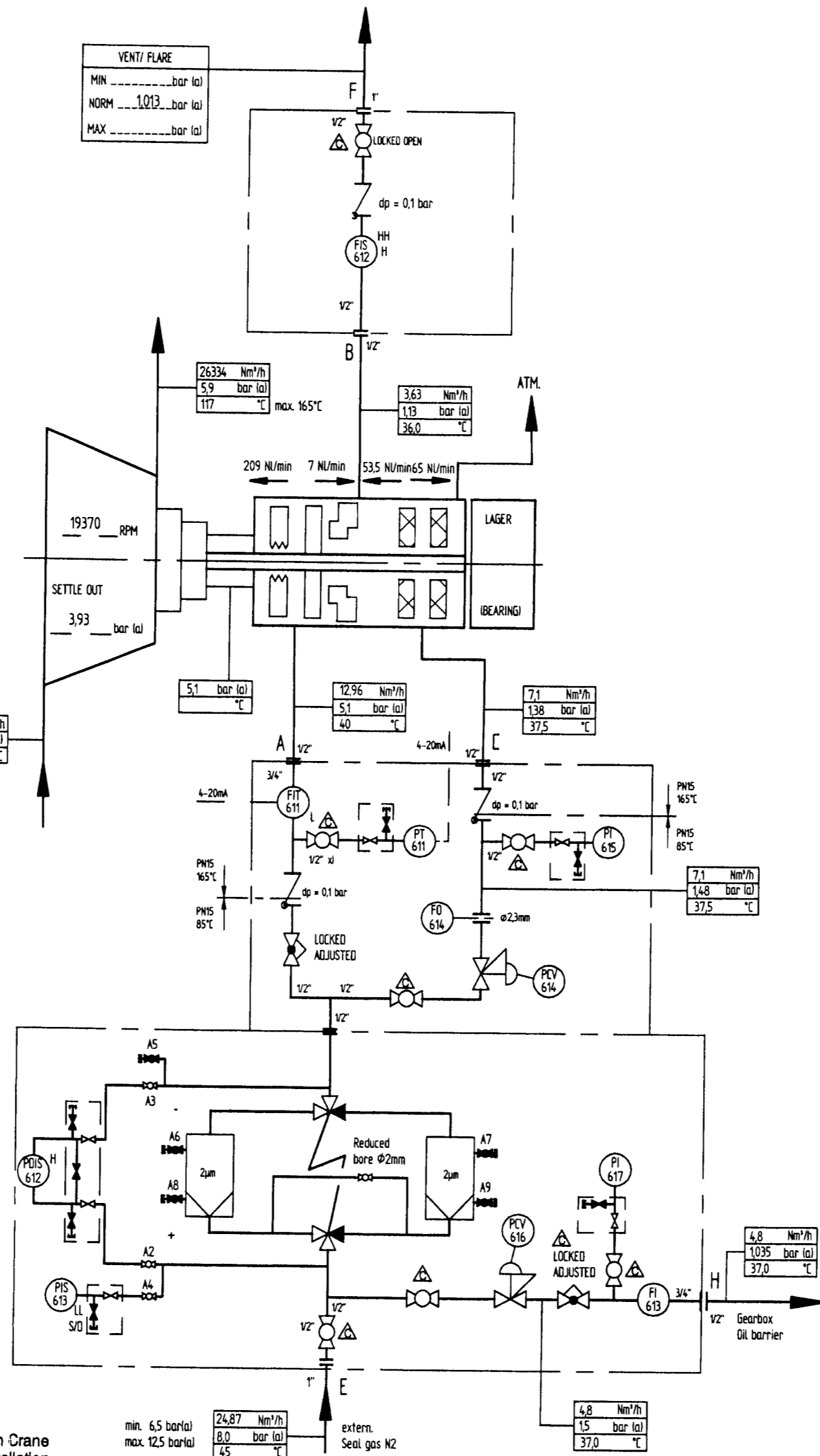
INSTRUMENTS

ITEM	ADJ. RANGE	SWITCH POINT	P max operation	MANUFACTURER / TYPE
FI 611	3,0 - 30 Nm³/h	L = 6,5 Nm³/h	40 bar	Krohne H250 ESK
FI 613	1,0 - 10 Nm³/h		40 bar	Krohne H250
FIS 612	1,4 - 14 Nm³/h	H=6,5 / HH=13,0 Nm³/h	40 bar	Krohne H250 K2
PT 611	0 - 10 bar g		60 bar	ABB 265GS
PDIS 612	0 - 1,6 bar g	H = 0,4 bar	2,0 bar g	Wika 733.51.100
PIS 613	0 - 16 bar g	LL = 5,2 bar g	22 bar g	Wika 233.50.100 ¹⁾
PI 615	0 - 1,6 bar g		22 bar g	Wika 233.50.100 ¹⁾
PI 617	0 - 100 mbar g		22 bar g	Wika 433.50.100 ¹⁾

¹⁾ WITH OVERPRESSURE PROTECTION

Notes:
 Refer to John Crane
 Seal and Installation
 Instructions
 for recommended practice

ACHTUNG:
 Einbau- und
 Betriebsvorschriften
 gemäß den Vorgaben von
 JOHN CRANE.



x) Attention: Min. Length of Processgas
 Instrument Tubing 600mm

Notes:
 Tags will be prefixed with
 1201
 For example: PI 1201617

ACHTUNG:
 Allen Tag Nr. wird die Zahl
 1201 angeführt
 z.B.: PI 1201617

John Crane
 scope of supply

J.C. COMMISSION No.	53.912/04
J.C. KOMMISSIONS Nr.	
ORDER No.	5104031
BESTELL Nr.	
IDENT. No.	3022994
IDENT. Nr.	
JOB AUFTRAG	AG KK&K-L GE PGW TURBO ARVAND RECYCLE

NOZZLES

ITEM	QUANT.	DESCRIPTION	PIPE SCH.	SIZE / TYPE
A	1	Filter gas to seal	S=1,65mm	½" FNPT
B	1	Leakgas from seal	S=1,65mm	½" FNPT
C	1	Buffer Gas to seal	S=1,65mm	½" FNPT
E	1	Filter inlet	SCH 40	1" - ASME B 16.5 150 lbs RF WN
F	1	Leakgas to vent	SCH 40	1" - ASME B 16.5 150 lbs RF
H	1	Purge to gear housing	S=1,65mm	½" FNPT

PARTS - LIST

ITEM	QUANT.	DESCRIPTION	MATERIAL / CERTIFICATES
1	1	Double filter unit	1.4462 / 1.4571 / 3.1
1	1	Flowtransmitter	1.4404 / 3.1
2	2	Flowmeter	1.4404 / 3.1

Instrument Connections: ½" NPT F

Dwg. No.	Description	Dwg. No.	Description
Reference documents/belongs to drawing			
OWNER:			
 National Petrochemical Company Arvand Petrochemical Company			
PROJECT:			
PVC ARVAND			
CONTRACTORS:			
Uhde		SAZEH CONSULTANTS	
UHDE check stamp:			
8408205-CB-RE-VDP-0012-0027			
 DZ 03-3039-10571894 P 000 R01			
Revision			
Scale:			
Date	Drawn	Checked	Welding checked
Name			Design check
			UAN: 03-3039-602
			PLANT: EDC/VCM
TON	120UG0	Equipment designation:	Quantity
Item No.	42U-1260	PU-RECYCLE GAS COMPRESSOR	1
Engineered by:	UHDE GMBH	Order No.:	34037050
Type of Drawing:	P&I DIAGRAM	Client Doc. No.:	8408205-CB-RE-VDP-0012-027
Manufacturer:	AG KK&K Business Unit PGW Turbo	Mfg. Job No.:	53.912/04
		Mfg. Dwg. No.:	D/33822
		Rev.:	1

AUFSTELLUNGSPLAN/ GA DRAWING: -	CAD-DRAWING/ CAD-ZEICHNUNG			
INSPECTION PLAN/ PRIÜFPLAN: -	DRAWN / GEZEICHNET	DATE / DATUM	CHK'D / GEPRÜFT	APP'D / GENEHMIGT
WIRING DIAGRAM SEE/ KABELPLAN SIEHE:	TM	14.03.05	KU	TM
				SCALE / MAßSTAB
				%

TITLE/ BENENNING:
Monobloc Control Panel 1SFLB

DRAWING No. & ISSUE / ZEICHNUNG NR. & AUSGABE



D/33822

D SHEET No 1

DESIGN DATA SHEET FOR BLOWERS/COMPRESSORS

Recycle gas compressor

TON 120K060

Item 42C-12060

Rev. 04

Rev			Rev				
1	Quantity operat./stand-by	1 0	52	03	Design code	API 672 &	
2	Drive	E-motor	53	03		Manufacturer Stanfard	
3	Frequency	Hz 50	54	03	Manufacturer	PGW Turbo	
4	Type (axial/radial)	radial	55	03	Type/Designation	GXP-110	
5	Type of machine	Centrifugal compressor	56	04	Size	4900 x 3400 x 2400	
6	Process fluid	Recycle gas	57				
7			58				
8	Class of hazard	Flammable	59	03	Suction nozzle PN	150#	
9	Max. operating temp.	°C 165.00	60	03	Suction nozzle DN	16"	
10	Max. operating pressure	bar g 8.50	61	03	Discharge nozzle PN	150#	
11	Design Temperature	°C 180.00	62	03	Discharge nozzle DN	12"	
12	Design Pressure	bar g 12.00	63	03	Flanges acc. to	ANSI	
13	Composition Components	Concentration [Vol.-%]	64	04	Weight, delivery	kg 15500.00	
14	see page 3	p.3 wrong	65				
15		see	66				
16		page 8	67				
17			68	04	Part	Material	Remarks
18			69	04	Casing	C.S., GS-C25	
19			70	04	Impeller	S.S. X4 CrNi134	
20			71	03	Shaft	18CrNiMo 7 / 42 CrMo4	
21			72		Shaft/Sleeve		
22	Service liquid		73				
23	Corrosive components		74		Operation	continuous	
24	Dust content	kg/m³	75		Location	Outdoor without roof	
25		mm	76		Level (on steel structure)	mm	
26	Suction temperature min/max	°C	77				
27	Suction temperature, rated	°C 47.00	78		Shaft seals	Mechanical seal	
28	Suction press., rated	bar a 2.900	79		Type of seal	Single gas seal	
29	Suction press., normal	bar a 3.400	80	04	Mechan. seal rings material	Hastelloy / SS	
30	Barometric pressure	bar a 1.010	81	04	Rot face/station. face	Carbon / Silicon Carbide	
31	Elevat. abv. mean sea level	m 0.000	82		Barrier fluid	Nitrogen	
32	02 Mass flow, rated	kg/h 43850.00	83		Flushing fluid	Nitrogen	
33	03 Suction capacity, rated	m³/h i.N. 26334.000	84		Separate sealing data sheet		
34	03 Suction capacity, normal	m³/h i.N. 23940.000	85				
35	02 Suction capacity, min.	m³/h i.N.	86				
36	Differential pressure	bar 3.000	87				
37	Discharge pressure	bar a 5.900	88				
38	Discharge temperature, rated	°C	89				
39	03 Density at suction cond.	kg/m³ 4.830	90				
40	03 Molar mass	kg/kmol 37.8000	91				
41	Gas constant R	kJ/kg K	92				
42	02 Specific heat	kJ/kg K 0.953	93				
43	02 Isentropic exponent K	1.3	94				
44	Rel. hum. at suc. cond. min/max	%	95				
45			96				
46			97				
47			98				
48	04 Speed	min-1 19370.00	99				
49	03 Shaft power, required	kW 784.00	100				
50	03 E-Motor rating	kW 950.00	101				
51	03 Sound pr. level, max. allow.	dB(A) 85	102				

103 02 Remarks:
 Line 82: low pressure nitrogen
 1) Discharge temperature to be given with proposal.

109 04 Remarks:
 2) Rated, what ever exceeds:
 - suction 3,1 bara at 47°C, discharge 5,9 bara, flow 26.334 Nm³/h.
 - suction 2,9 bara at 47°C, discharge 5,9 bara, flow 23.940 Nm³/h.
 3) at 3,4 bara suction pressure.
 4) Depending on Recycle Gas Composition, see page 8.
 Estimated power requirement: 950 kW.

30.01.06 08:27:57

Uhde

مهندسان مشاوران

SAZEH
CONSULTANTS**PVC Arvand**National Petrochemical company
Arvand Petrochemical Company

Uhde Project No: 03-3039

Sazeh Project No: 8047

Owner Project No: 8408205

Job Code: PVC Arvand

Job Code:

Owner Job Code: PVC Arvand

Page 1 of 1

EMR – INSTRUMENT LIST**PU – Recycle Gas Compressor**

Uhde Project Code 03-3039-602

Uhde Purchase Order No. 34037050

Client Requisition Number 8408205-CB-RE-REQ-0012

Item – No 42U-12060

TON 120U060


AG KK&K – PGW Turbo Job No. 5104031

Rev	Status	Description	Date	Prepared	Date	Checked	Date	Approved	AC
03		Revision	04.11.05	Pyka	04.11.05	Pyka			
02		Revision	17.05.05	Pyka	17.05.05	Pyka			
01		Revision and change Doc.ID-Code	28.04.05	Pyka	28.04.05	Pyka			
00		First Issue	02.03.05	Pyka	02.03.05	Pyka			
CC Category Code:		AC Acceptance Code:		Space for Bar Code					
1 = for approval		1 = approved/reviewed							
2 = for review		2 = approved as noted/ reviewed as noted							
3 = for information		3 = not accepted							
Copyright 2003 Uhde GmbH			Doc. ID-Code 8408205-CB-RE-VDP-0012- 012				CC		

1	2	3	4	5	6	7	8	9	10	11	12	13
Rev.	EMR - Instrument	Pcs.	Measurement device	EMR - funktion	Place Fluid	Capacity [kW] Speed [1/min.]	Range Flow	Pressure bar(g) Δp	Temp. [°C] Rated value	EMR- instr. DN / PN	Make Supplier	Remarks
3	42FIT 1201611	1	Flowmeter with transmitter	Indication of N ₂ for sealing	N ₂		3,0-30Nm ³ /h		19,47 Nm ³ /h	1/2" NPT	Krohne John Crane	Type H250 RR M9 ESK II EEx 4 - 20mA, EEx ia II T3
3	42FISH 1201612	1	Flowmeter with contact	Seal gas flow from seal	N ₂		1,4-14Nm ³ /h H=6,5 Nm ³ /h HH=13,0 Nm ³ /h		3,63 Nm ³ /h	1/2" NPT	Krohne John Crane	Type H250 RR M9 K2 EEx EEx ia IIC T3
3	42FI 1201613	1	Flowmeter	Indication of N ₂ for sealing / gear	N ₂		1,0-10Nm ³ /h		4,8 Nm ³ /h	1/2" NPT	Krohne John Crane	Type H250 RR M9
3	42LS 1201621	1	Float switch	Oil level control	Oil tank						GEMS	Type LS-400 EEx(i)
3	LG	1	Oil sight glass	Level indication	Oil tank					1" G	HothoData NORIS PGW	
3	42FV 1201202	1	Electropneumatic position controller	Adjustment of regulating distance	IGV						ARCA PGW	Type Samson 3730-310010 4 - 20mA, EEx ia IIC T6
3	42FO 1201614	1	Restriction Orifice	Seal Gas flow	N ₂						John Crane Renk PGW	
3	42FO 1201601	1	Restriction Orifice	Oil flow before gear box	Oil							

3	04.11.05	Pyka	AG KK & K Business Unit PGW Turbo		Recycle Gas Compressor GXP-110		Project	
2	17.05.05	Pyka	Klingenstr. 15 / D-04229 Leipzig		Item - No. 42U-12060		Uhde Project Code	
1	25.04.05	Pyka	PF 31 07 61 / D-04211 Leipzig		TON 120U060		Uhde Purchase Order No. : 34037050	
0	22.02.05	Pyka	☎(03 41) 49 92-0 Fax:49 92-203		EMR - INSTRUMENT - LIST		PGW Doc. - No	
Rev	Date	Name					: L5104031-EMR	
							: PVC Arvand	
							: 03-3039-602	
							: 34037050	
							: L5104031-EMR	
							Sheet 4 of 4	

1	2	3	4	5	6	7	8	9	10		11	12		13
									EMR - Instrument	Measurement device		EMR - funktion	Place Fluid	
Rev	Date	Pyka	Name	EMR - INSTRUMENT - LIST										
3	04.11.05	1	42VT 1201651	Radial shaft vibration pinion shaft X / NDS	pinion shaft		0 - 100 µm _{pp}		≤ 20 µm _{pp}		M10 x 1	Bently Nevada	Type 330104-00-19-10-01-05 Length L=190mm	
3	17.05.05	1	42VT 1201652	Radial shaft vibration pinion shaft Y / NDS	pinion shaft		0 - 100 µm _{pp}		≤ 20 µm _{pp}		M10 x 1	Bently Nevada	Type 330104-00-19-10-01-05 Length L=190mm	
3	25.04.05	1	42VT 1201653	Radial shaft vibration pinion shaft X / DS	pinion shaft		0 - 100 µm _{pp}		≤ 20 µm _{pp}		M10 x 1	Bently Nevada	Type 330104-00-19-10-01-05 Length L=190mm	
3	22.02.05	1	42VT 1201654	Radial shaft vibration pinion shaft Y / DS	pinion shaft		0 - 100 µm _{pp}		≤ 20 µm _{pp}		M10 x 1	Bently Nevada	Type 330104-00-19-10-01-05 Length L=190mm	
3		1	42ZT 1201651	Axial shaft position pinion shaft;	pinion shaft		+ / - 1mm				M10 x 1	Bently Nevada	Type 330104-00-11-10-01-05 Length L=110mm	
3		1	42ZT 1201652	Axial shaft position pinion shaft;	pinion shaft		+ / - 1mm				M10 x 1	Bently Nevada	Type 330104-00-11-10-01-05 Length L=110mm	
3	04.11.05	1	42SE 1201651	Speed pinion shaft	pinion shaft	19370					M10 x 1	Bently Nevada	Type 330104-00-19-10-01-05 Length L=190mm	

 <p>AG KK & K Business Unit PGW Turbo Klingenstr. 15 / D-04229 Leipzig PF 31 07 61 / D-04211 Leipzig ☎ (03 41) 49 92-0 Fax:49 92-203</p>		<p>Recycle Gas Compressor GXP-110 Item - No. 42U-12060 TON 120U060</p>		<p>Project Udde Project Code : PVC Arvand : 03-3039-602 Udde Purchase Order No. : 34037050 PGW Doc. - No : L5104031-EMR</p>	
<p>MSR-Liste_GXP-110_R.3</p>		<p>EMR - INSTRUMENT - LIST</p>		<p>Sheet 3 of 4</p>	


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1	2	3	4	5	6	7	8	9	10	11	12	13
Revisions	EMR - Instrument	Pcs.	Measurement device	EMR - funktion	Place Fluid	Capacity [kW] Speedl [1/min.]	Range Flow	Pressure bar(g) Δp	Temp. [°C] Rated value	EMR-instr. DN / PN	Make Supplier	Remarks
3	42PI 1201624	1	Manometer	Oil pressure in front of the oil cooler	Oil		0 - 10 barg			1/2" NPT	Wika HothoData	Type 233.50.100, NG100
3	42PDISH 1201622	1	Diff.pressure indication	Oil filter clogging-up	Oil		0 - 0,8 barg	max. 0,8 bar			Boill & Kirch PGW	Type 4.46.2 connect intrinsically safe
3	42PCV 1201623	1	Pressure controller	Oil pressure control	Oil		1 - 20 barg		1,7 ^{+0,2} barg		Lindner PGW	Type Kalb DN 25-R
3	42PT 1201601	1	Pressure transducer	Connec./Mount. maindr. Auxiliary oil pump drive	Oil		0 - 6,0 barg		1,7 ^{+0,2} barg	1/2" NPT	ABB HothoData	Type 265 GS 4 - 20mA, EEx(i)
3	42PT 1201602	1	Pressure transducer	Connec./Mount. maindr. Auxiliary oil pump drive	Oil		0 - 6,0 barg		1,7 ^{+0,2} barg	1/2" NPT	ABB HothoData	Type 265 GS 4 - 20mA, EEx(i)
3	42PCS 1201213	1	Surge Shut Down Controller	Surge protection	Oil						ABB HothoData	Digitric 500
3	42PI 1201621	1	Manometer	Oil pressure downstream of oil filter	Oil		0 - 6,0 barg		1,7 ^{+0,2} barg	1/2" NPT	Wika HothoData	Type 233.50.100, NG100
3	42PISL 1201613	1	Manometer with inductive contact	Intake pressure N ₂	N ₂		0 - 16,0 barg	L=5,2 barg			Wika HothoData	Type 233.50.100, NG100
3	42PDISH 1201612	1	Diff.pressure manometer with inductive contact	Diff.pressure in the filter	N ₂		0 - 1,6 barg	max. 0,4 bar	norm.7,0barg	1/2" NPT	John Crane Wika	EEx i IIC T3
3	42PT 1201611	1	Pressure transducer	N ₂ Intake pressure in front of the seal	N ₂		0 - 30 barg		4,1 barg	1/2" NPT	ABB John Crane	Type 265GS 4 - 20mA, EEx ia IIC T3
3	42PCV 1201614	1	Pressure controller	Control of N ₂ intake buffer gas to seal	N ₂		0,1 - 2,1 barg		norm.7,1Nm ³ /h	1/2" NPT	Fisher John Crane	Typ 95H
3	42PI 1201615	1	Manometer	N ₂ pressure in front of the seal (Buffer gas)	N ₂		0 - 1,6 barg		0,38 barg	1/2" NPT	Wika John Crane	Type 233.50.100, NG100
3	42PCV 1201616	1	Pressure controller	Control of N ₂ pressure to labyrinth seal / gear	N ₂		0,1 - 2,1 barg		norm.4,8Nm ³ /h	1/2" NPT	Fisher John Crane	Type 95H
3	42PI 1201617	1	Manometer	Intake of N ₂ pressure to labyrinth seal / gear	N ₂		0 - 100 mbarg			1/2" NPT	Wika John Crane	Type 433.50.100, NG100

3	04.11.05	Pyka	AG KK & K Business Unit PGW Turbo		Recycle Gas Compressor GXP-110		Project	
2	17.05.05	Pyka	Klingenstr. 15 / D-04229 Leipzig		Item - No. 42U-12060		: PVC Arvand	
1	25.04.05	Pyka	PF 31 07 61 / D-04211 Leipzig		TON 120U060		: 03-3039-602	
0	22.02.05	Pyka	(03 41) 49 92-0 Fax:49 92-203		EMR - INSTRUMENT - LIST		: 34037050	
Rev	Date	Name					: L5104031-EMR	
Sheet 1 of 4								

1	2	3	4	5	6	7	8	9	10	11	12	13
Rev	EMR - Instrument	Pcs	Measurement device	EMR - funktion	Place Fluid	Capacity [kW] Speed [1/min.]	Range Flow	Pressure bar(g) Δp	Temp. [°C] Rated value	EMR- instr. DN / PN	Make Supplier	Remarks
3	42TE/TT 1201601	1	Resistance Thermometer/Transmitter	Monitoring of oil inlet temperature / gear	Oil		0 - 100°C		47°C	1/2" NPT	ABB HothoData	Type TH02-Ex 4 - 20mA, EEx(i)
3	42TE/TT 1201602	1	Resistance Thermometer/Transmitter	Monitoring of oil inlet temperature / gear	Oil		0 - 100°C		47°C	1/2" NPT	ABB HothoData	Type TH02-Ex 4 - 20mA, EEx(i)
3	42TCV 1201622	1	Temperature controller	Oil temperature control	Oil		39 - 49°C		47°C	1 1/2" 150lbs	AMOT PGW	Type 11/2EFSJ110020AA
3	42TI 1201621		Temperature Gauge	Oil temperature downstream of oil filter	Oil		0 - 100°C		47°C	1/2" NPT	Wika HothoData	Type R5502-TM55.01
3	42TE/TT 1201651	1	Resistance Thermometer/Transmitter	Monitoring of radial bearing temp. pinion shaft / NDS	bear. metal		0 - 150°C		90°C		Renk PGW	EEx(i) 2xPt100, 3-wire
3	42TE/TT 1201652	1	Resistance Thermometer/Transmitter	Monitoring of radial bearing temp. pinion shaft / DS	bear. metal		0 - 150°C		90°C		Renk PGW	EEx(i) 2xPt100, 3-wire
3	42TE/TT 1201653	1	Resistance Thermometer/Transmitter	Monitoring of radial bearing temp. wheel shaft / NDS	bear. metal		0 - 150°C		70°C		Renk PGW	EEx(i) 2xPt100, 3-wire
3	42TE/TT 1201654	1	Resistance Thermometer/Transmitter	Monitoring of radial bearing temp. wheel shaft / DS	bear. metal		0 - 150°C		70°C		Renk PGW	EEx(i) 2xPt100, 3-wire
3	42TE/TT 1201655	1	Resistance Thermometer/Transmitter	Monitoring of axial bearing temp. wheel shaft / DS outboard	bear. metal		0 - 150°C		70°C		Renk PGW	EEx(i) 2xPt100, 3-wire

incl. transmitter; Type TH02 delivered by ABB/HothoData

 <p>AG KK & K Business Unit PGW Turbo Klingenstr. 15 / D-04229 Leipzig PF 31 07 61 / D-04211 Leipzig ☎ (03 41) 49 92-0 Fax.49 92-203</p>		<p>Recycle Gas Compressor GXP-110 Item - No. 42U-12060 TON 120U060</p>	<p>Project Uhde Project Code : 03-3039-602 Uhde Purchase Order No. : 34037050 PGW Doc. - No : L5104031-EMR</p>												
<table border="1"> <tr> <th>3</th> <th>04.11.05</th> <th>Pyka</th> </tr> <tr> <th>2</th> <th>17.05.05</th> <th>Pyka</th> </tr> <tr> <th>1</th> <th>25.04.05</th> <th>Pyka</th> </tr> <tr> <th>0</th> <th>22.02.05</th> <th>Pyka</th> </tr> </table>	3	04.11.05	Pyka	2	17.05.05	Pyka	1	25.04.05	Pyka	0	22.02.05	Pyka	<p>EMR - INSTRUMENT - LIST</p>		<p>Sheet 2 of 4</p>
3	04.11.05	Pyka													
2	17.05.05	Pyka													
1	25.04.05	Pyka													
0	22.02.05	Pyka													

RENK Aktiengesellschaft

Werk Rheine

Rodder Damm 170, D-48432 RHEINE



List of Parts

Schutzvermerk ISO 16016 beachten

1 HIGH-SPEED GEARBOX THGD-320

Order No.: 854183 / 10

Edition: 12.07.2005

Page: 1 / 1

Pos	pc.	designation	DIN/TN		dimension	drwg-no.	material	kg
1010	1	LOWER HOUSING PART	1740	320	THGD-320	794008	S235JRG2N/S	710
1011	1	UPPER HOUSING PART	1740	320	THGD-320	794008	S235JRG2N/S	155
1020	2	LAGERBUEGEL-BAUGRUPPE				793947		
1020	4	CHEESE HEAD SCREW	ISO	4762	M20X110-12.			
1022	1	LAGERBUEGEL-BAUGRUPPE				767625		
1023	1	LAGERBUEGEL-BAUGRUPPE				767626		
1030	1	LABYRINTH SEALING RING, S				794059	GC-ALSI5MG/	
1050	1	LABYRINTH SEALING RING, S		91919	140/77X29	794043	GC-ALSI5MG/	1
1051	2	SCREW PLUG	DIN	906	M8X1-ST			
1055	1	DICHTSCHEIBE GET.		91950	D = 78/250X3	794044/1	AL9905	
1060	1	SEALING COVER			Z = 160	794065	CK45N	4
1130	2	INSPECTION HOLE COVER	TN	92141	260X200-HOR			
1130	2	SEAL	TN	67410	260X200	316861/1	ABIL GRAU	
1131	2	SEAL	TN	67410	260X200	316861/1	ABIL GRAU	
1140	1	INSPECTION HOLE COVER	TN	92141	260X200-VER			
1150	1	AERATION FILTER F-2033			F-2033/M24X			
1151	1	SEALING RING	DIN	7603	A24X29-AL			
1170	6	SCREW PLUG	DIN	908	M24X1,5-ST/			
1175	12	SCREW PLUG		92802	DI = M10X1,KO			
1176	12	SCREW PLUG	DIN	910	M10X1-ST/PA			
1177	2	SCREW PLUG	DIN	910	G1/4A-ST/PA			
1200	4	CHEESE HEAD SCREW	ISO	4762	M20X110-12.			
1202	6	CHEESE HEAD SCREW	ISO	4762	M16X190-12.			
1210	17	HEXAGON HEADED SCREW	ISO	4017	M10X30-8.8			
1221	4	TAPERED PIN	ISO	8737	12X140-ST			
1224	2	TAPERED PIN	ISO	8737	8X60-ST			
1235	6	HEXAGON HEADED SCREW	ISO	4017	M10X30-8.8			
1250	8	COUNTERSUNK SCREW	ISO	2009	M6X16-4.8			
1251	8	SPACER BUSH		90974	DA = 12,DI = 8		ST37.4NBK	
1260	4	HEXAGON HEADED SCREW	ISO	4017	M12X35-8.8			
1300	20	HEXAGON HEADED SCREW	ISO	4017	M10X25-8.8			
5010	1	GEAR SHAFT	1740	320	THGD-320	793993/1	42CRMO4 + QT	84
5020	1	GEAR	1740	320	THGD-320	793992	18CRNIMO7-6	119
5040	1	PINION SHAFT	1740	320	THGD-320	793995/3	18CRNIMO7-6	22
5082	2	THRUST COLLAR	1740	320	THGD-320	793999/0	18CRNIMO7-6	1
5087	2	RETAINING RING	1740	320	THGD-320	793997/0	42CRMO4 + QT	
5088	4	AXIAL RING, SPLIT	1740	320	THGD-320	793996/0	ST52.0	
5480	1	SLEEVE BEARING, SPLIT		90325	E134,110	768026		
5481	1	SLEEVE BEARING, SPLIT		90315	E131,110	767680/1		3
5482	2	ADJUSTING SHEET		91940	175/140X4	767165/1		
5483	1	ADJUSTING SHEET		91940	175/140X6	767164/1		
5500	2	RADIAL TILTING PAD -SLEEVE			70-S2-06			
5590	2	GROOVED PIN	DIN	1474	6X16-ST			
5750	2	KEY	TN	64410	A2 28X16X15		C45K	
5910	1	PUMP WHEEL	1740	320	THGD-320	794130	42CRMO4V	10
5911	1	PUMP PINION	1740	320	THGD-320	794129	42CRMO4V	
5950	2	GROOVED PIN	DIN	1474	4X12-ST			
6010	1	SCHRAUBENSPIDEL PUMPE			SNGX-40-46-			
6083	6	SCREW CONNECTION			MS-M,ATEX,M			

RENK Aktiengesellschaft

Werk Rheine

Rodder Damm 170, D-48432 RHEINE



Stückliste

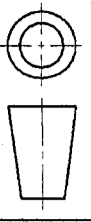
Schutzvermerk ISO 16016 beachten

1 TURBOGETRIEBE THGD-320
MASSBLATT: 0794009(5)
ZUSAMMENSTELLUNG: 0794010(3)
RADSATZ: 0793998(1)

Auftrag Nr.: 854183 / 10
Ausdruck: 12.07.2005
Seite: 1 / 1

Pos	Stck	Benennung	DIN/TN	Abmessung	ZCHG-NR.	Werkstoff	kg	
1010	1	GEHAEUSEUNTERTEIL	1740	320	THGD-320	794008	S235JRG2N/S	710
1011	1	GEHAEUSEOBERTEIL	1740	320	THGD-320	794008	S235JRG2N/S	155
1020	2	LAGERBUEGEL-BAUGRUPPE				793947		
1020	4	ZYLINDERSCHRAUBE	ISO	4762	M20X110-12.			
1022	1	LAGERBUEGEL-BAUGRUPPE				767625		
1023	1	LAGERBUEGEL-BAUGRUPPE				767626		
1030	1	SPITZENDICHRING GET.				794059	GC-ALSI5MG/	1
1050	1	SPITZENDICHRING GET.		91919	140/77X29	794043	GC-ALSI5MG/	1
1051	2	VERSCHLUSSSCHRAUBE	DIN	906	M8X1-ST			
1055	1	DICHTSCHEIBE GET.		91950	D = 78/250X3	794044/1	AL9905	
1060	1	VERSCHLUSSDECKEL			Z = 160	794065	CK45N	4
1130	2	SCHAULOCHDECKEL-BAUGRUPPE	TN	92141	260X200-HOR			
1130	2	DICHTUNG	TN	67410	260X200	316861/1	ABIL GRAU	
1131	2	DICHTUNG	TN	67410	260X200	316861/1	ABIL GRAU	
1140	1	SCHAULOCHDECKEL-BAUGRUPPE	TN	92141	260X200-VER			
1150	1	BELUEFTUNGSFILTER			F-2033/M24X			
1151	1	DICHRING	DIN	7603	A24X29-AL			
1170	6	VERSCHLUSSSCHRAUBE	DIN	908	M24X1,5-ST/			
1175	12	VERSCHLUSSSCHRAUBE		92802	DI=M10X1,KO			
1176	12	VERSCHLUSSSCHRAUBE	DIN	910	M10X1-ST/PA			
1177	2	VERSCHLUSSSCHRAUBE	DIN	910	G1/4A-ST/PA			
1200	4	ZYLINDERSCHRAUBE	ISO	4762	M20X110-12.			
1202	6	ZYLINDERSCHRAUBE	ISO	4762	M16X190-12.			
1210	17	SKT.SCHRAUBE	ISO	4017	M10X30-8.8			
1221	4	KEGELSTIFT	ISO	8737	12X140-ST			
1224	2	KEGELSTIFT	ISO	8737	8X60-ST			
1235	6	SKT.SCHRAUBE	ISO	4017	M10X30-8.8			
1250	8	SENKSCHRAUBE	ISO	2009	M6X16-4.8			
1251	8	DISTANZBUECHSE		90974	DA = 12,DI = 8		ST37.4NBK	
1260	4	SKT.SCHRAUBE	ISO	4017	M12X35-8.8			
1300	20	SKT.SCHRAUBE	ISO	4017	M10X25-8.8			
5010	1	RADWELLE	1740	320	THGD-320	793993/1	42CRMO4 + QT	84
5020	1	RAD	1740	320	THGD-320	793992	18CRNIMO7-6	119
5040	1	RITZELWELLE	1740	320	THGD-320	793995/3	18CRNIMO7-6	22
5082	2	DRUCKKAMM	1740	320	THGD-320	793999/0	18CRNIMO7-6	1
5087	2	HALTERING	1740	320	THGD-320	793997/0	42CRMO4 + QT	
5088	4	AXIALRING GET.	1740	320	THGD-320	793996/0	ST52.0	
5480	1	GLEITLAGER GET.		90325	E134,110	768026		
5481	1	GLEITLAGER GET.		90315	E131,110	767680/1		3
5482	2	EINSTELLBLECH		91940	175/140X4	767165/1		
5483	1	EINSTELLBLECH		91940	175/140X6	767164/1		
5500	2	RKS-GLEITLAGER			70-S2-06			
5590	2	STECKERBSTIFT	DIN	1474	6X16-ST			
5750	2	PASSFEDER M.2 ABDRUCKL.	TN	64410	A2 28X16X15		C45K	
5910	1	PUMPENRAD	1740	320	THGD-320	794130	42CRMO4V	10
5911	1	PUMPENRITZEL	1740	320	THGD-320	794129	42CRMO4V	
5950	2	STECKERBSTIFT	DIN	1474	4X12-ST			
6010	1	SCHRAUBENSPIDEL PUMPE			SNGX-40-46-			
6083	6	KABELVERSCHRAUBUNG			MS-M,ATEX,M			

MODIFICATIONS:- ISSUE 'A' ORIGINAL ISS. 'B' MOD. AS PER GSO3966 CUSTOMER MARKED UP PRINT. MK. 19/4/05. ISS. 'C' MODIFIED AS PER CUSTOMER COMMENTS AS STATED IN MICHAEL KULLMANN'S E-MAIL DATED 13/06/05 -DAA- 228/05

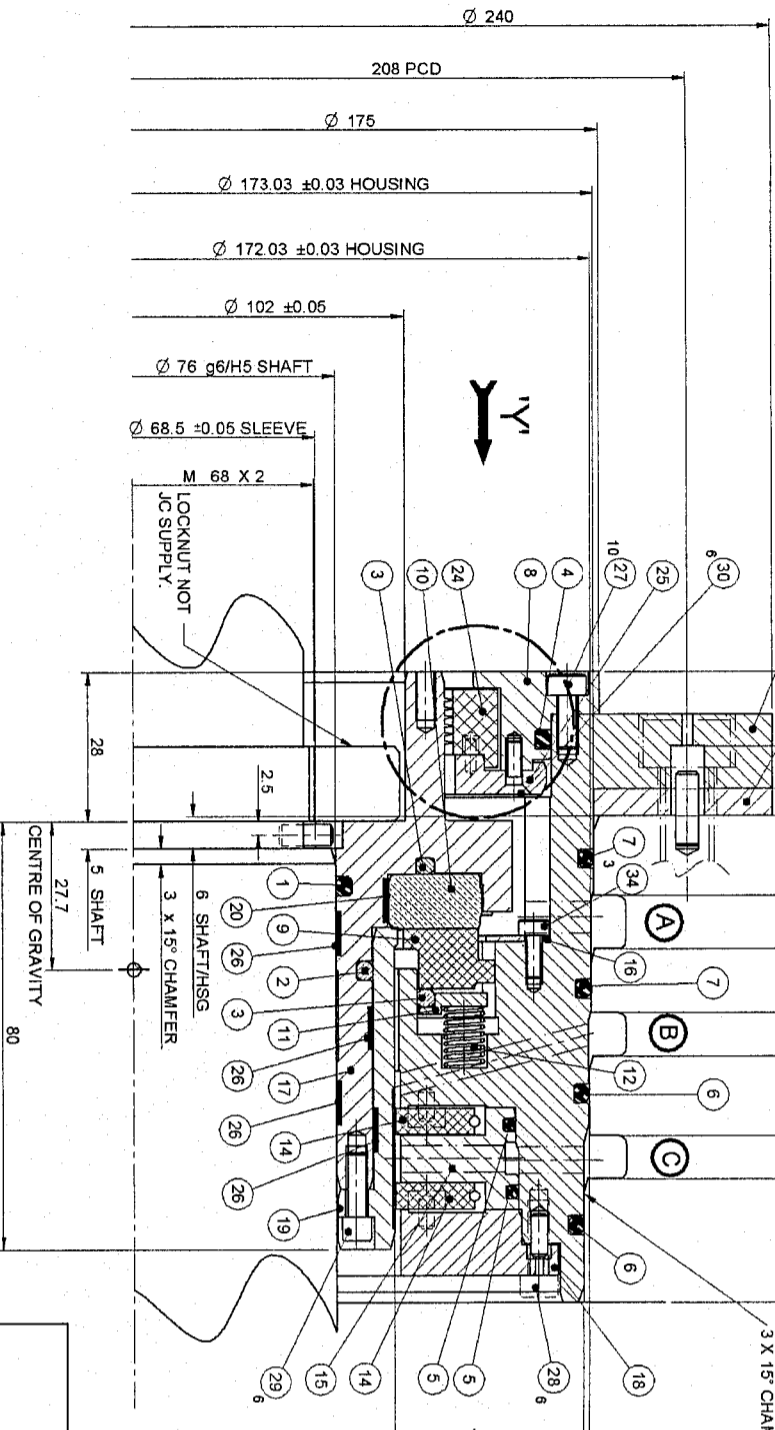


PORTING DETAILS

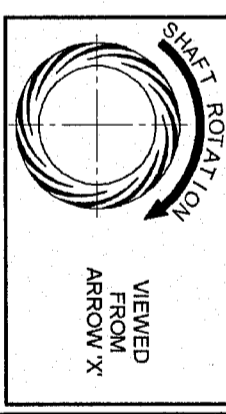
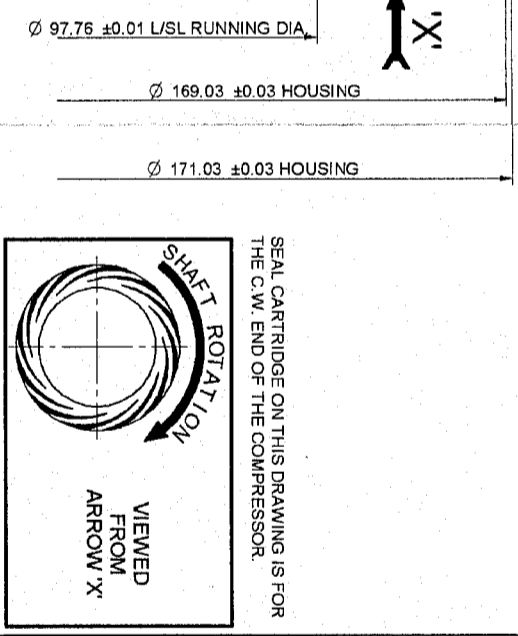
- (A)** CLEAN GAS INJECTION
- (B)** FLARE
- (C)** BUFFER GAS INJECTION

ITEM 23
SUPPLIED
2 mm OVERSIZE
(5mm NOMINAL)

PROCESS SIDE

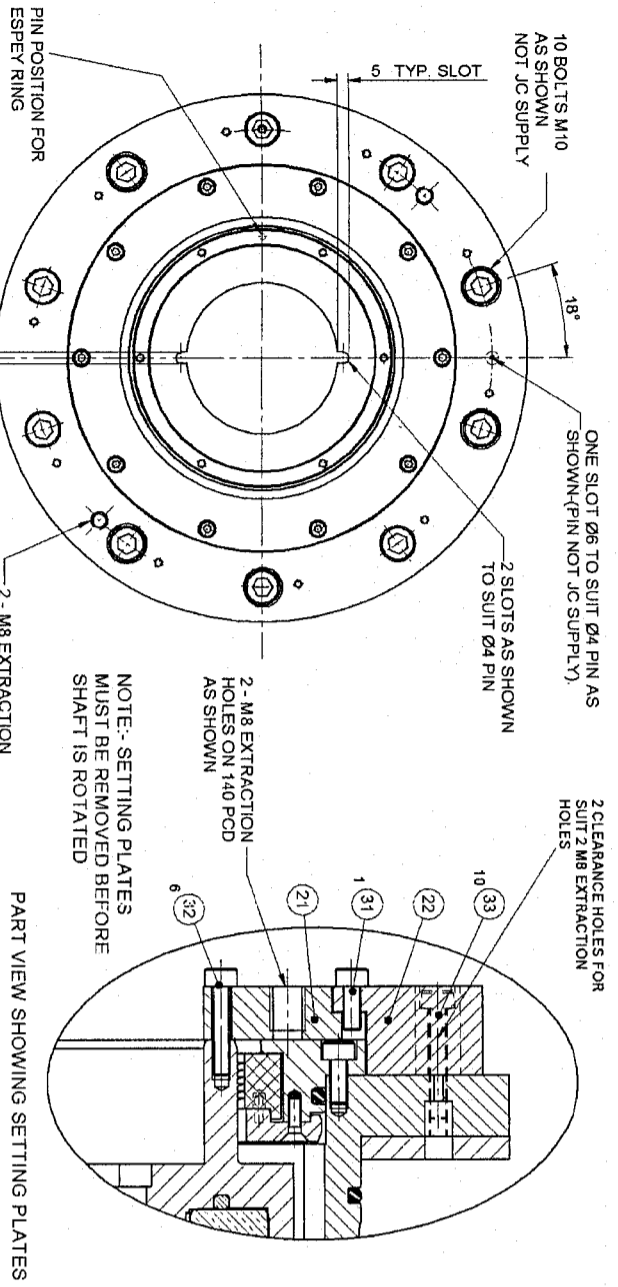


ATMOSPHERIC SIDE



SEAL CARTRIDGE ON THIS DRAWING IS FOR THE C.W. END OF THE COMPRESSOR.

NOTE:- ONLY ITEMISED PARTS WILL BE SUPPLIED BY JOHN CRANE UK LTD.



VIEW ON DIRECTION OF ARROW 'Y'

PART VIEW SHOWING SETTING PLATES

Item No.	120K1960	Part No.	34037050
Rev.	1	Part No.	04/50067G
Scale	1:1.5	Part No.	S/B2362
Author	John Crane	Part No.	1
Check	John Crane	Part No.	1
Drawn	John Crane	Part No.	1
Welding	John Crane	Part No.	1
Material	Udde	Part No.	1
Heat Treatment	Udde	Part No.	1
Surface Finish	Udde	Part No.	1
Coating	Udde	Part No.	1
Inspection	Udde	Part No.	1
Assembly	Udde	Part No.	1
Storage	Udde	Part No.	1
Transport	Udde	Part No.	1
Installation	Udde	Part No.	1
Operation	Udde	Part No.	1
Maintenance	Udde	Part No.	1
Disposal	Udde	Part No.	1

REF.	PART No.	DESCRIPTION	MATERIAL	QTY
1	2340/123687	BS O-RING	FLUOROCARBON	1
2	2350/123687	BS O-RING	FLUOROCARBON	1
3	2430/123687	BS O-RING	FLUOROCARBON	2
4	2570/123687	BS O-RING	FLUOROCARBON	1
5	1600/123687	BS O-RING	FLUOROCARBON	2
6	2390/123687	BS O-RING	FLUOROCARBON	2
7	2600/123687	BS O-RING	FLUOROCARBON	2
8	S/B1228/1033	LABYRINTH HOUSING	HA STEELLOY C 216M/STMB 574	1
9	1063/HSB/640	FACE	CARBON	1
10	1063/HSB/640	SEAT	SILICON CARBIDE	1
11	1063/HSB/640	THRUST RING	HA STEELLOY C 216M/STMB 574	1
12	S/B1324/1033	SPRING	HA STEELLOY C 216M/STMB 574	6
13	S/B1224/1033	RETAINER ASM.	HA STEELLOY C 216M/STMB 574	1
14	S/B1233/1991	ESPEY RING	CARBON	2
15	S/B1233/1991	ESPEY HOUSING	ST. ST. BS410521	1
16	S/B1396/1033	FACE RETAINER DISC	HA STEELLOY C 216M/STMB 574	3
17	S/B1231/1033	SL EEVE	HA STEELLOY C 216M/STMB 574	1
18	S/B1231/1033	ESPEY RETAINER ASM.	ST. ST. BS410521	1
19	S/B1231/199	LOOKING SLEEVE	HA STEELLOY C/COAT	1
20	S/B1231/199	FINGER SPRING	INCONEL X750	1
21	S/B1234/1033	SETTING PLATE INNER	ST. ST. BS410521	1
22	S/B1234/1033	SETTING PLATE OUTER	ST. ST. BS410521	1
23	S/B1234/1033	SHIM	HA STEELLOY C 216M/STMB 574	1
24	S/B1234/1033	ABRADABLE INSERT	EKONOL	1
25	S/B1234/1033	LABYRINTH RET. ASM.	HA STEELLOY C 216M/STMB 574	4
26	S/B1234/1033	TOLERANCE STRIP	MONEL K500	1
27	S/B1234/1033	CAP HEAD SCREW	HA STEELLOY C 216M/STMB 574	10
28	S/B1234/1033	CAP HEAD SCREW	DN 912 - 12.9 / ISO 888-1	6
29	S/B1234/1033	CAP HEAD SCREW	DN 912 - 12.9 / ISO 888-1	6
30	S/B1234/1033	CSK SCREW	HA STEELLOY C 216M/STMB 574	6
31	S/B1234/1033	CAP HEAD SCREW	DN 912 - 12.9 / ISO 888-1	1
32	S/B1234/1033	CAP HEAD SCREW	DN 912 - 12.9 / ISO 888-1	6
33	S/B1234/1033	CAP HEAD SCREW	DN 912 - 12.9 / ISO 888-1	10
34	S/B1234/1033	CAP HEAD SCREW	DN 912 - 12.9 / ISO 888-1	3
35	S/B1234/1033	SPARES KIT		
36	S/B1234/1033	COMPLETE SEAL ASSEMBLY COMPRISES OF ITEMS 01 TO 35		

TOTAL MASS OF SEAL = 16 Kg
 MASS OF ROTOR = 3.4 Kg
 MOMENT OF INERTIA = 0.0089kgm²
 BALANCE QUALITY = ISO1940 G1.0
 AXIAL MOVEMENT = ± 2.5 mm
 RADIAL MOVEMENT = ± 0.6 mm (NOT INCLUDING LABYRINTH)
 SETTLE OUT PRESSURE = 1.9/2.4 BAR G
 DESIGN PRESSURE = 19 BAR G STATIC & DYNAMIC
 DESIGN TEMPERATURE = -20° C TO +180° C STATIC & DYNAMIC
 INTEGRITY PRESSURE = 19 BAR G
 INSPECTION PLAN No. = 53 91204 Rev 1
 SHAFT TORQUE = 100 Nm @ 1200
 MINIMUM LIFT OFF SPEED = 414 RPM

SEAL DATA	SEAL ASSEMBLY CODE: 1063/28AT-1/SB2362	PD No. 5062
CUSTOMER DATA	CUSTOMER: ARVAND	
SERVICE DATA	GAS: CO2 + N2 + HYDROCARBONS + EDC + O2 + 0.2% UNDEFINED	
TEMPERATURE	PRESSURE DYNAMIC	PRESSURE STATIC
MAX: 165° C	MAX: 8.5 BAR G	MAX: 2.4 BAR G
NORM: 117° C	NORM: 1.9 BAR G	NORM: 1.9 BAR G
MIN: -	MIN: 4.9 BAR G	MIN: -
REFERENCE DATA:	FILE REF: 04/50067G	CAT D

TITLE:
 INSTALLATION OF A SINGLE T28AT
 FOR A PGW ARVAND RECYCLE.
 CW

SCALE	DRG. LOCATION	BY	DATE	CHK'D	APP'D
1:1.5	GB06EN	MK	17/03/05	JSD	BA
		DRG. No.		SHT. No.	ISSUE
		S/B2362		1 OF 1	C

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