


TRANSLATION OF ORIGINAL OPERATING INSTRUCTIONS


	Operating Instructions for Piller Radial Fan	VA 41201995 Pos.10
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11 Data sheets

11.1 Machine data sheet

	OP-1	OP-2	
CONVEYED MEDIUM	steam		
MASS FLOW	19523.00	19523.00	kg/h
VOLUME FLOW	33.637	33.637	m ³ /s
INLET PRESSURE	250.08	250.08	mbar
DISCHARGE PRESSURE SATURATED	332.39	325.33	mbar
SUCTION TEMPERATURE	65.00	65.00	°C
DISCHARGE TEMPERATURE SATURATED	71.00	71.00	°C
TEMPERATURE DIFFERENCE	6.90	6.90	°C
DENSITY AT OPERATION SATURATED	0.1612	0.1612	kg/m ³
TOTAL PRESSURE DIFFERENCE	84.35	77.34	mbar
INTERNAL EFFICIENCY GRADE	82	82	%
SHAFT PERFORMANCE	311.70	289.00	kW
FAN SPEED	3605	3481	rpm
MOMENT OF INERTIA	95.20	92.90	kgm ²
MASS OF INJECTED WATER	356.90	330.00	kg/h
DENSITY WITH WATER	0.1642	0.1639	kg/m ³
SHAFT POWER RATED WITH WATER INJ	317.30	293.80	kW
SUCTION OPENING	800		mm
DISCHARGE OPENING	800		mm
TIP SPEED	264.20	255.10	m/s
SHUT OFF SPEED = MAX. SPEED	3700	3700	rpm
SUCTION TEMPERATURE MAX.	100.00	100.00	°C
INLET VELOCITY RELATED TO DN	85.00	85.00	m/s
IMPELLER DIAMETER	1410		mm
IMPELLER INTERFERENCE FREQUENCY	901	870	Hz
NOISE PRESSURE LEVEL (measured in 1m distance from outline of blower, with connected inlet and discharge pipeline)	91	90	dB (A)
NOISE PRESSURE LEVEL (measured in 1m distance In front of the inlet nozzle)	118	117	dB (A)
EXTERNAL SOUND POWERLEVEL	110	108	dB (A)

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Important Remark

- no solid particles allowed
- the impeller material 1.4501 (Super Duplex) and 1.4462 (Avesta 2205) can be used at pH-values around 6 - 7 for continuous operation.
- pH-values < 4 are only acceptable for cleaning procedures with diluted nitric acid.


CIP (cleaning in process)

Cleaning processes in the plant with diluted nitric acid (3-5%) are permissible at reduced speed (approx. 500 rpm). The residence time should never exceed 30 minutes. After cleaning process an accurate flushing by operation of the fan with vapour has to be ensured.



In the case of noise emissions above 85 dB(A) in the fan danger area, wear suitable hearing protection.


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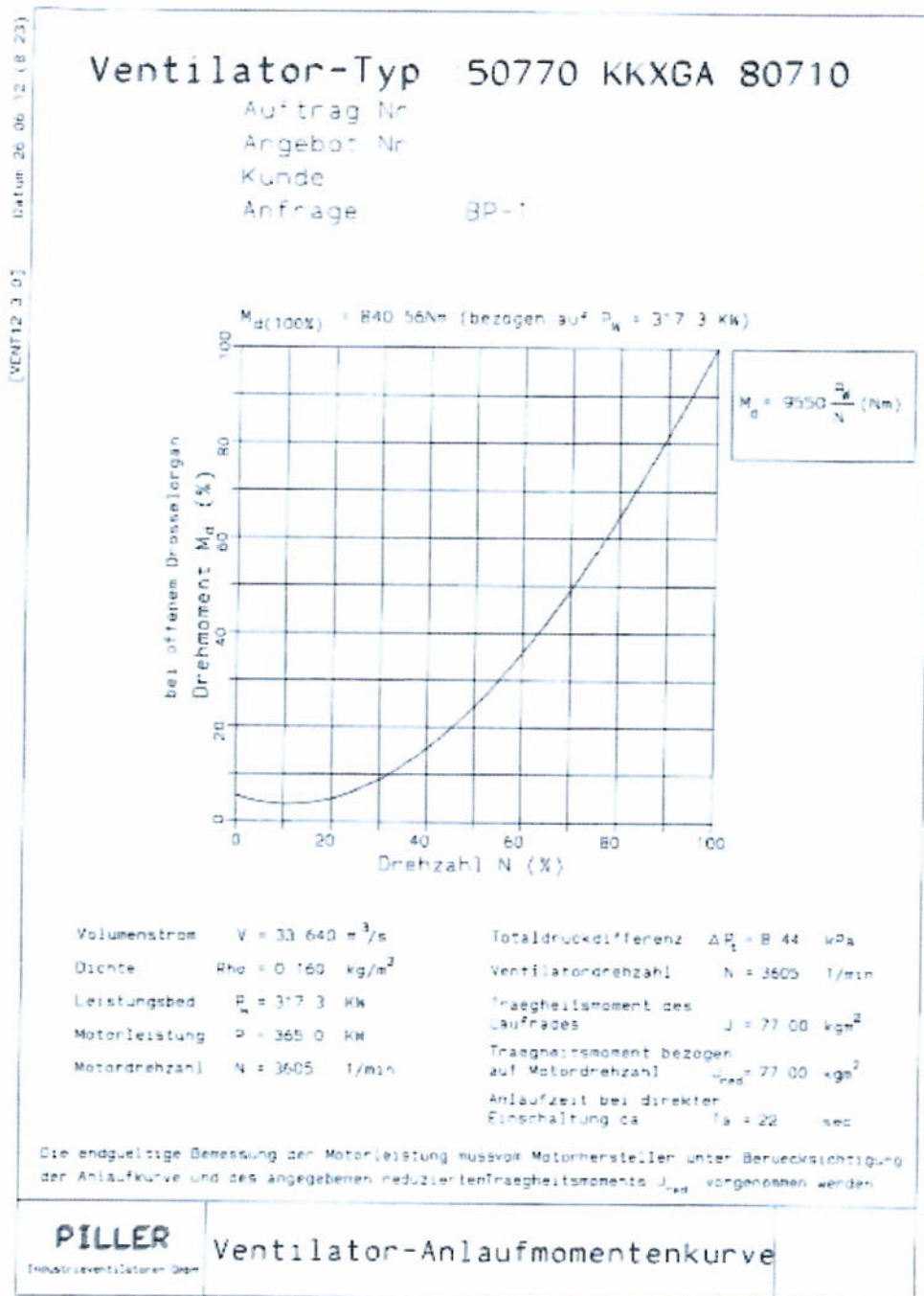
11.2 Motor data sheet

Customer provides motor

Manufacturer	Siemens
Type	1LA8317-2PC90
Output	353 [kW]
Rotation speed (max.)	3580 [rpm]

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11.3 Fan starting-torque curve



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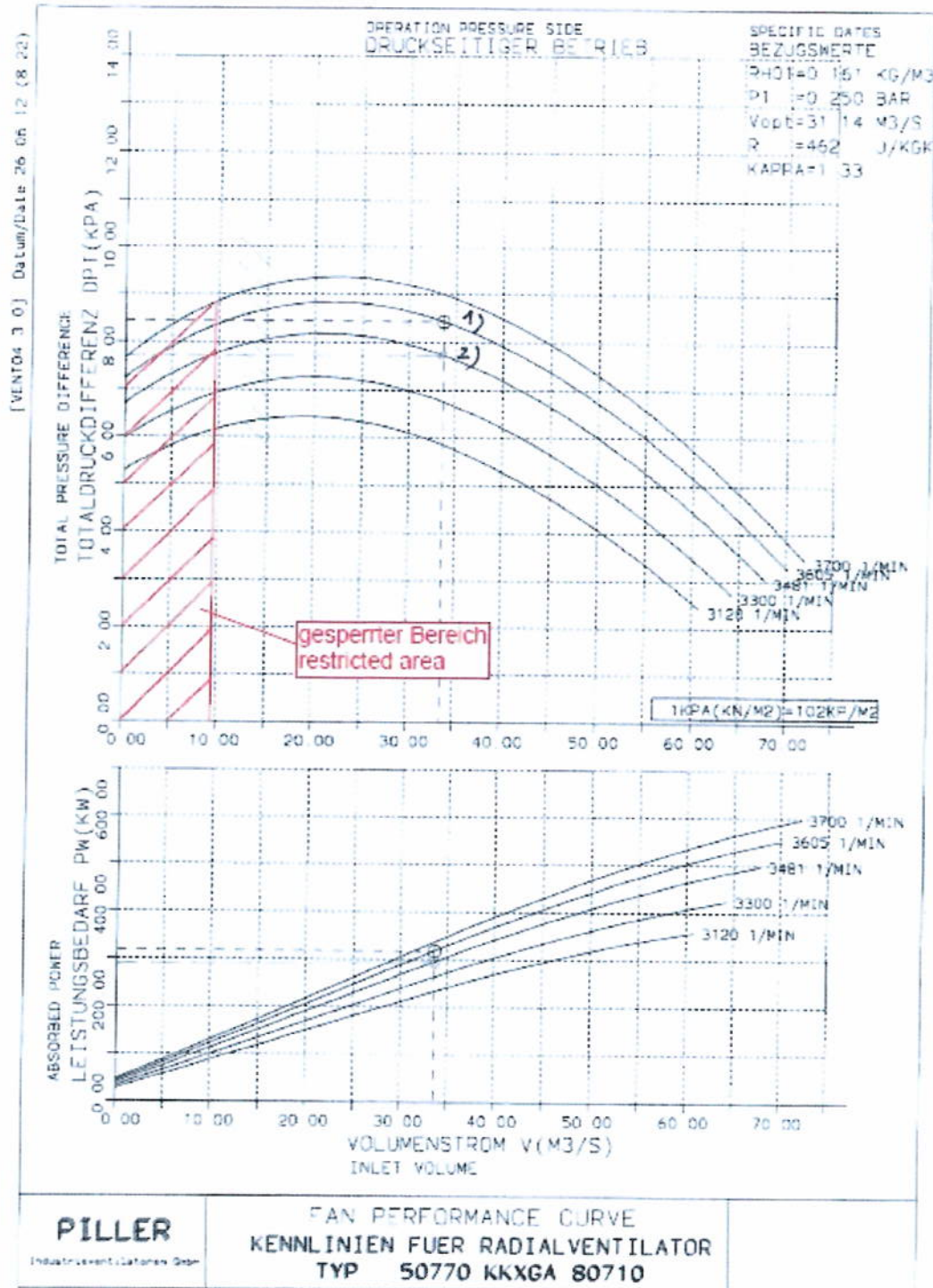


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11.4 Characteristics of fan



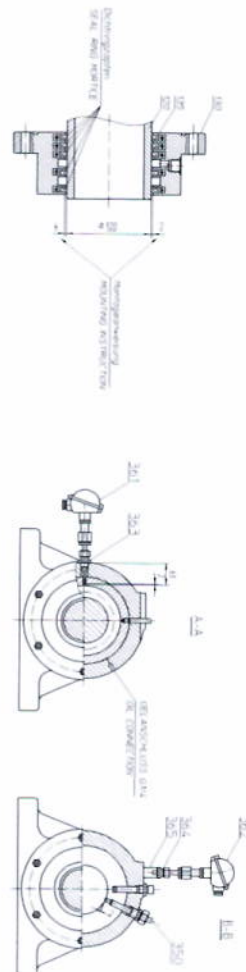
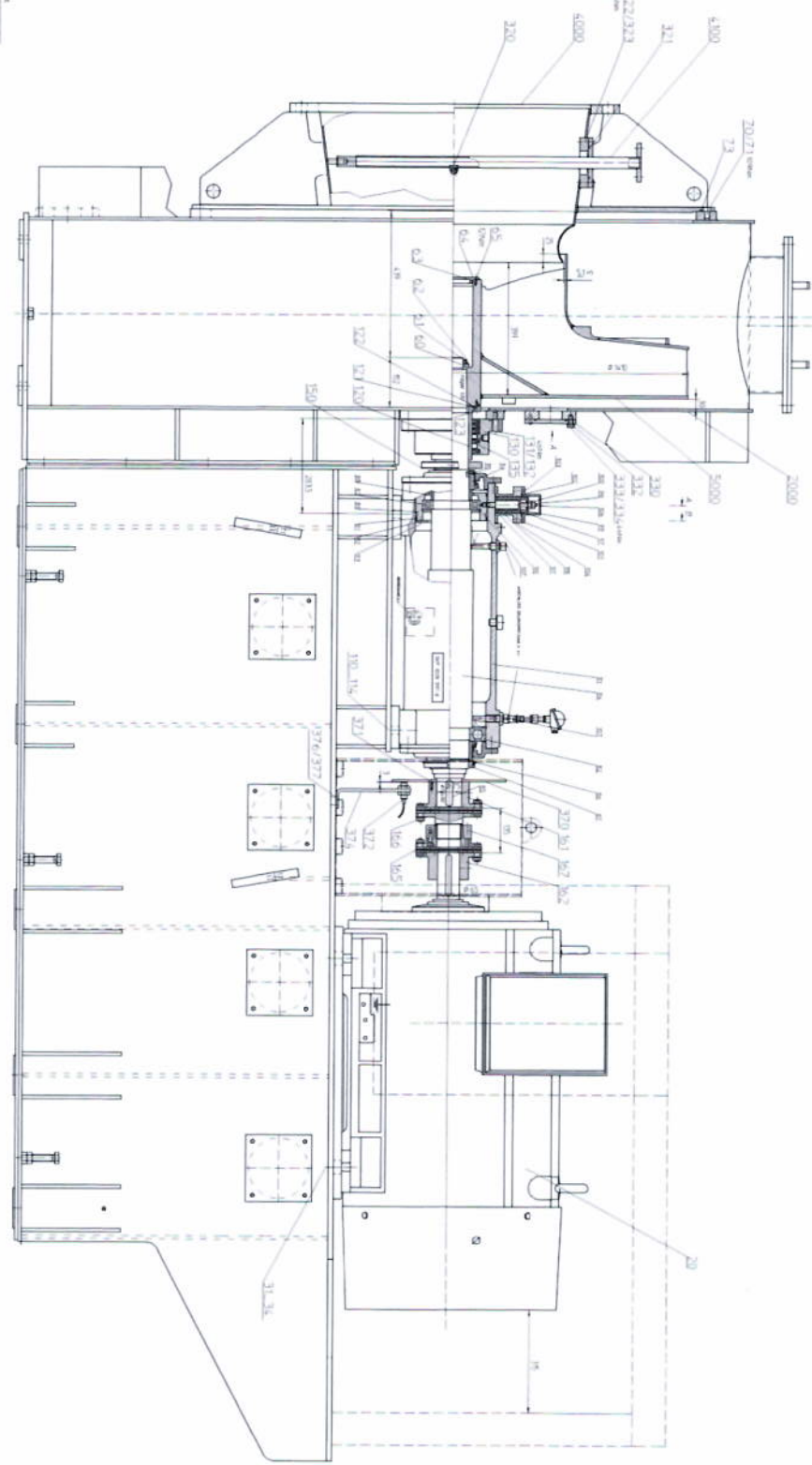
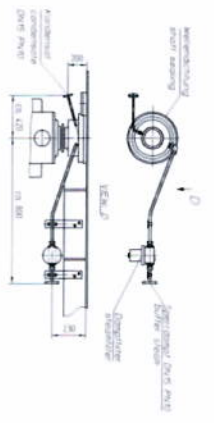


Fig. 4
Schnitzmaschine
Niederdruckpumpe




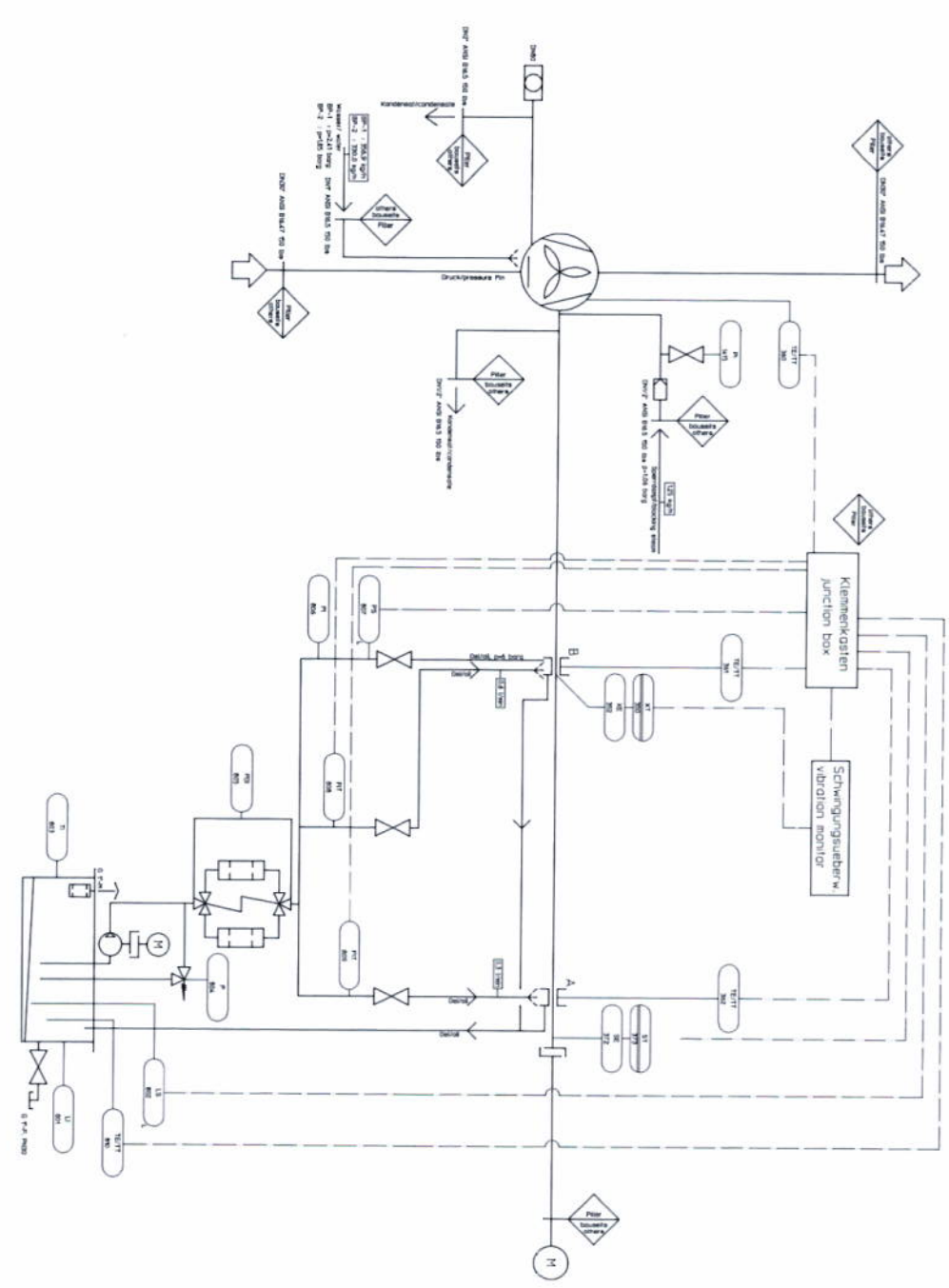
Erkennung der Abweichung der Dichtung
Anschauen und in der ersten Untersuchung
bedeutend verstehen
In sehr geringe Abstände nehmen der
Kontrollpunkte wie folgt in Betrachtung
nehmen

Assembly attention to using of energy
Lacking points are pointed in some cases
in the direction of viewing
Each in direction of view the working
points must be present in the end state in volume

<p>Einbaueinheit 91078/05's beschleunigt Herstellung und Demontage des Lagereils auf Überwachungsstand</p>		<p>Aufzeichnung des Lagereils während 5 min Ermittlung der spezifizierten 91078/05's Markierung und Dimensionierung der Bauteile mit präzisen Geräten</p>	
<p>The sliding way is 5 mm</p>			
<p>Hersteller: ENBAU Produktionsort: ENBAU Produktionsjahr: 1978 Produktionsnummer: 91078/05</p>		<p>Hersteller: ENBAU Produktionsort: ENBAU Produktionsjahr: 1978 Produktionsnummer: 91078/05</p>	

spare parts list
Ersatzteilliste

 PILLER <small>Blowers & Compressors</small>				
list- no.:	151500000579	50770 KKXGAE 80710	Order-no.	41201995
Installation	59.5.242.8105	GL360	Kundenauftr.	Pos.10
Einbau:				
	part name	type	ident no.:	quantity
	Bezeichnung	Typ	Ident. Nr.	Anzahl
	o-ring	112x5	00.4.108.0457	1
	O-Ring			
	o-ring	1470x5	00.4.108.0473	1
	O-Ring			
	deep groove ball bearing	6224MA/C3	00.4.939.4457	1
	Rillenkugellager			
	cyl. Roller bearing	NU1022M/C3	00.4.937.3321	1
	Zylinderrollenlager			
	o-ring	195x5	00.4.107.4018	2
	O-Ring			
	o-ring	60x3	00.4.107.2371	2
	ring			
	Ring	U6,2/9,2x1	00.3.357.0005	1
	O-Ring			
	sleeve	100/120x160	59.4.098.0956	1
	Buchse			
	o-ring	120x5	00.4.108.0192	1
	O-Ring			
	o-ring	220x5	00.4.108.0484	1
	O-Ring			
	sealing ring	120 WD500	00.4.101.9079	4
	Dichtring			
	coupling part	ARS-06 195-6	00.4.369.9508	2
	Kupplungsteil			
	bolts coupling part	ARS-06 195-6	00.4.369.9509	2
	Schrauben Kupplungsteil			
	o-ring	430x5	00.4.108.0441	1
	O-Ring			
	o-ring	110x5	00.4.108.0416	1



Administrative project information: Name: [blank] Date: [blank] Version: [blank]		Technical drawing: Drawing No: 59.9.039.0418 Scale: 1:1		Project information: Project No: 50770 KXKGAE 80710		Revision: Rev. 1 / Rev. 2	
Customer / Auftraggeber: R&I FLESSSCHEMA				Contract / Vertrag: 50770 KXKGAE 80710			
Manufacturer / Hersteller: R&I FLESSSCHEMA		Year / Jahr: 2012		Version / Version: 2		Project / Projekt: P&I DIAGRAM	
Project / Projekt: P&I DIAGRAM		Year / Jahr: 2012		Version / Version: 2		Project / Projekt: P&I DIAGRAM	
Customer / Auftraggeber: MIL ENGINEERING		Year / Jahr: 2012		Version / Version: 2		Project / Projekt: P&I DIAGRAM	
Manufacturer / Hersteller: R&I FLESSSCHEMA		Year / Jahr: 2012		Version / Version: 2		Project / Projekt: P&I DIAGRAM	

<p>8</p> <p>graphische Symbole nach EN ISO 10628 graphical symbols acc. to EN ISO 10628</p>	<p>7</p> <p>graphische Symbole nach ISO 14617 graphical symbols acc. to ISO 14617</p>	<p>6</p> <p>graphische Symbole nach ISO 3511 graphical symbols acc. to ISO 3511</p>
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<p>5</p> <p>graphische Symbole nach ISO 14617 graphical symbols acc. to ISO 14617</p>	<p>4</p> <p>graphische Symbole nach ISO 3511 graphical symbols acc. to ISO 3511</p>	<p>3</p> <p>Messstelle technisch ISO 3511 Instruments similar to ISO 3511</p>
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2

Verbinden Sie Ihre Instrumentierung nach ISO 3511
Referenzcode für Identifizierung der Instrumentierung nach ISO 3511
Nennwert des Instrumentierungselementes

ISO 3511	ISO 3511	ISO 3511	ISO 3511	ISO 3511	ISO 3511	ISO 3511	ISO 3511	ISO 3511	ISO 3511
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1

Lineartenform gemäß EN ISO 10628 und ISO 3511
line width similar to EN ISO 10628 and ISO 3511

Verbindungen nach EN ISO 10628 und ISO 3511
connections acc. to EN ISO 10628 and ISO 3511

Beispiel

Klempnerkasten
example

8 & 1 DIAGRAM

ISO 10628/ISO 3511/14617

ISO 10628/ISO 3511/14617

ISO 10628/ISO 3511/14617

ISO 10628/ISO 3511/14617

ISO 10628/ISO 3511/14617

Instrument List



59.9.600.0150

Order: 41201995 / 010
 Customer: M&L Engineering GmbH
 Customer Designation: 50770 KXXGAE 80710
 P&I Diagram / Revision: 5990390418 / B

Position	TAG-No.	Piller-Item no.	Designation	Manufacturer	Supply Voltage	Output Signal	Measuring Range
350	350	0045155084	vibration monitoring unit RV- 116/2/80/1/2/1/1/1/1/2/2/3/1/0/2	Brüel & Kjær Vibro GmbH	24 V DC	4 - 20 mA 0 - 10 V OK-relay alarm high alarm high-high	
352	352	0045159006	displacement sensor IN-083/3/070/50/0/206	Brüel & Kjær Vibro GmbH	-18 - 30 V DC	supply voltage +2 V	
360	TIT 46.09	0049250121	resistance thermometer TR24-AB2AD43000	Endress + Hauser	24 V DC	4 - 20 mA	0 - 150 °C
361	TIT 46.10	0049250121	resistance thermometer TR24-AB2AD43000	Endress + Hauser	24 V DC	4 - 20 mA	0 - 150 °C
362	TIT 46.11	0049250121	resistance thermometer TR24-AB2AD43000	Endress + Hauser	24 V DC	4 - 20 mA	0 - 150 °C
372	SIT 46.90	0048435056	proximity switch NJ5-18GM-N 5m	Pepperl + Fuchs Vertrieb Deutschland GmbH	5 - 25 V DC	trigger	
373	EI 46.12	0048920036	frequency converter KFUB-UFC-1.D	Pepperl + Fuchs Vertrieb Deutschland GmbH	20 - 90 V DC 48 - 253 V AC	signal, relay signal, relay electronic output, passiv 4 - 20 mA	0,001 - 12000 Hz
801	801	0046279103	oil level indicator SNA 127-B-S-O-12	Walter Stauffenberg GmbH & Co. KG			76 mm

Instrument List



59.9.600.0150

Position	TAG-No.	Piller-Item no.	Designation	Manufacturer	Supply Voltage	Output Signal	Measuring Range
802	LIT 46.21	0045400199	level switch ASCA-RPP1.5-VU-L240/12-B40A	KSR Kuebler Niveau-Messtechnik AG	230 V AC, 40 VA, 1A (max.)	1 switching contact 30 V DC	
803	803	0045409193	Industrial thermometer 175.2.10.1.1.100.2.1	SIKA			0 - 100 °C
804	804	0045409197	pressure relief valve SPV10A1G1A12	Kracht GmbH			4 - 12 bar
805	805	0045409318	clogging indicator AOC.1.5.P.-	INTERNORMEN Technology GmbH			
806	806	0045409198	pressure gauge 213.53.63	WIKA Alexander Wiegand GmbH & Co.KG			0 - 10 barg
807	PSA 46.27	0045159050	pressure switch 0880300 0,5-8 barg	Norgren GmbH	250 V AC 24 V DC	microswitch (commutator)	0.5 - 8 barg
808	FIT 46.30	0045409186	indicator SD1-I-24 for volume counter (0-1 l/min)	Kracht GmbH	24 V DC	4 - 20 mA	0,0 - 10,0 l/min
809	FIT 46.29	0045409186	indicator SD1-I-24 for volume counter (0-1 l/min)	Kracht GmbH	24 V DC	4 - 20 mA	0,0 - 10,0 l/min
810	TIT 46.28	0049250121	resistance thermometer TR24-AB2AD43000	Endress + Hauser	24 V DC	4 - 20 mA	0 - 150 °C
1415	PI 46.05	0045040120	Druckmessgerät with Plattenfeder 433.56.100 0...250 mbar	WIKA Alexander Wiegand GmbH & Co.KG			0 - 250 mbar