

11.1

Oil System



lubisystem s.r.l.

Job 0504 A

CUSTOMER: MAN TURBO AG Schweiz

ORDER: N° 4000877

JOB:

PLANT LOCATION:

PLANT: KOSAIR 2004

EQUIPMENT: LUBE OIL SYSTEM INSERTION

ITEM:

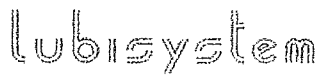
CERTIFICATION DOSSIER

MAY 2005

50209

50210





SP.200.02

SH1d1

JOB.:	
-------	--

0504 A

REF.DWG.:	
-----------	--

2116/3158.0

[illegible]



1

COMPLETE OIL UNIT

- CE Conformity
- Running test certificate
- Noise level test certificate



lubisystem s.r.l.

**DICHIARAZIONE DI CONFORMITA' CE
RELATIVA AL MACCHINARIO**
"CE" Declaration of conformity
relevant to the machinery

D.100.21

COMM. N°.

Job N°. **0504 A**

DATA

Date **16/05/2005**

CLIENTE/client:

MAN TURBO AG Schweiz

IMPIANTO/plant:

KOSAIR 2004

ORDINE N°/orderN°:

4000877



Noi,
We,

LUBISYSTEM S.r.l. Via F.lli Zoia, 75 - 20153 MILANO (Italia)

dichiariamo sotto la nostra responsabilità, che la macchina nuova:
declare under our sole responsibility that the new machine:

denominata/called: LUBE OIL SYSTEM INSERTION

disegno/dwg: 3158.0

sigla/ tag n°: -----

è conforme alle disposizioni della Direttiva Macchine N. 89/392/CEE
satisfy the provisions of the Machine Directive N. 89/392/CEE

e suoi successivi emendamenti 91/368/CEE, 93/44/CEE e 93/68/CEE
and its later amendments 91/368/CEE, 93/44/CEE e 93/68/CEE

e alle norme armonizzate e tecniche applicabili.
and the harmonized and technical provisions that can be applied.

RESPONSABILE COLLAUDO
Test Engineer


Lubisystem S.r.l.



lubisystem

S.r.l.

**CERTIFICATE
FOR OPERATIONAL
AND CLEANLINESS TESTS**

C.300.17

Fg/Shl.

1 di/of 3

CLIENTE/Customer
MAN TURBOAG Schweiz

IMPIANTO/Plant
KOSAIR

DATA/Date
05/05/2005

COMM./Job
0504 A

TITOLO/Title
LUBE OIL SYSTEM INSERTION

ORDINE/Order
N° 4000877

REF.DIS./Dwg.
3158.0

TECHNICAL DATA

CODE: ☐ API 614 ☐ STD. LUBISYSTEM ☒ OTHER :STD MAN

UNIT SERIAL N° 050572

G.A. FOR CONSOLE DWG 3158.0

FLOW DIAGRAM DWG 2116

ELECTRIC WIRING DIAGRAM: -----

LIST OF COMPONENTS DWG. : Doc. D.100.06

LIST OF CONNECTIONS DWG 3158.0

THE RUNNING TEST TO BE CONDUCTED FOR AT LEAST 4 HOURS

CONSOLE TO BE TESTED INDIPEND. OF COMPRESS. : ☒ YES ☐ NO

OIL USED FOR TEST: ISO VG46

OIL CHARGE AMOUNT: ~ 1200 L. FOR TEST

ACCUMULATOR PRECHARGE: N.A.

SETTING RELIEF VALVE: 8 BARG

☐ MAIN ☒ STD. BY OIL PUMP SUPPLY: 553 L/1'

☐ MAIN ☒ STD. BY PUMP DISCH. PRESS. NORM/MAX: . . 5/8 BARG

☐ EMERG. OIL PUMP SUPPLY:A.C. & D.C. MOTOR N.A.

☐ EMERG. OIL PUMP DISCH. PRESS NORM./MAX:.

NORMAL ☒ L.O. ☐ S.O. ☐ C.O. FLOW REQ.D: 404 L/1'

NORMAL ☒ L.O. ☐ S.O. ☐ C.O. PRESS. REQ.D: . . L.O 1,8 BARG

☒ OIL TEMPER. AT EQUIPMENT : 45°C

☒ ELECTRIC SOURCE : 3/400/50 A.C.

☐ INSTRUMENT AIR : N.A



lubisystem S.r.l.

**CERTIFICATE
FOR OPERATIONAL
AND CLEANLINESS TESTS**

C.300.17

Fg/Sht.

2 di/of 3

CLIENTE/Customer
MAN TURBOAG Schweiz

IMPIANTO/Plant
KOSAIR

DATA/Date
05/05/2005

COMM./Job
0504 A

TITOLO/Title
LUBE OIL SYSTEM INSERTION

ORDINE/Order
N° 4000877

REF.DIS./Dwg.
3158.0

**DESCRIPTION
CONTINUOUS OPERATION**

TIME

TEST COMMENCED
AT **7.00** . . . HRS

		8.00		9.00		10.00		11.00			
A	OIL PRESS. (BARG)	Main pump	S.by pump	Main pump	S.by pump	Main pump	S.by pump	Main pump	S.by pump	Emer pump A.C.	Emer pump D.C.
	1 PUMP SUCTION										
	2 PUMP DISCHARGE		2.4		2.4		2.35		2.35		
	3 L.O. SUPPLY		1.85		1.9		1.9		1.9		
	4 S.O. SUPPLY										
	5 C.O. SUPPLY										
B OIL TEMP. (°C)											
	RESERVOIR										
	BEFORE COOLER		40		45		47		50		
	AFTER COOLER										
C FLOW. (L/1')											
	TOTAL FLOW SUPPLY		580				581				
	■ L.O. SUPPLY		405		404		405		405		
	□ C.O. SUPPLY										
	□ S.O. SUPPLY										
D FILTER. Δp (BARG)											
		L	R	L	R	L	R	L	R		
	■ L.O. □ S.O.	*		*		*		*			
	□ C.O.										
E RELIEF VALVE (BARG)											
		PSV 202									
	SET PRESSURE							8			
	MAX PRESS. FULL CAPACITY							8,8			
	DOES VALVE CHATTER							NO			

Remark : * OPTICAL TYPE INSTRUMENT IN BLUE AREA

lubisystem S.r.l.		CERTIFICATE FOR OPERATIONAL AND CLEANLINESS TESTS		C.300.17																																		
				Fg/Sht. 3 di/of 3																																		
CLIENTE/Customer MAN TURBO AG Schweiz		IMPIANTO/Plant KOSAIR		DATA/Date 05/05/2005																																		
TITOLO/Title LUBE OIL SYSTEM INSERTION			ORDINE/Order N° 4000877	COMM./Job 0504 A																																		
1 FUNCTIONAL TEST : functional test performs without control panel 2 SECOND PUMP START (main) + (st.by) barg : disch. Press STABILITY : N.A. SECOND PUMP STOP (main) barg : disch. press. STABILITY : N.A. <i>Auxiliary</i> SECOND PUMP STOP (st.by) barg : disch. press. STABILITY : STAND BY AUTO-START barg : when low press is: N.A. STABILITY : when Δp between oil and ref. Gas is: SATISFACTORY <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr><td>A2</td><td>A3</td><td>A4</td><td>A5</td></tr> <tr><td>N.A.</td><td>N.A.</td><td>N.A.</td><td>N.A.</td></tr> </table> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr><td>A2</td><td>A3</td><td>A4</td><td>A5</td></tr> <tr><td>N.A.</td><td>N.A.</td><td>N.A.</td><td>N.A.</td></tr> </table> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr><td>A2</td><td>A3</td><td>A4</td><td>A5</td></tr> <tr><td>2.4</td><td>1.8</td><td>-</td><td>-</td></tr> </table>					A2	A3	A4	A5	N.A.	N.A.	N.A.	N.A.	A2	A3	A4	A5	N.A.	N.A.	N.A.	N.A.	A2	A3	A4	A5	2.4	1.8	-	-										
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2.4	1.8	-	-																																			
3 CHANGE OVER AND DRAINAGE CHECK (BARG) ☒ L.O. ☐ S.O. FILTER ☐ C.O. FILTER COOLER CHANGE OVER ** NEGLIGIBLE <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr><th>Δp value</th><th>DRAINAGE</th></tr> <tr><td>**</td><td>SATISFACTORY</td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>					Δp value	DRAINAGE	**	SATISFACTORY																														
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**	SATISFACTORY																																					
4 CLEANLINESS CHECK a) AFTER 12 HOURS OF RUNNING AT THE TEMPER. 65/70°C THE SYSTEM HAS BEEN CHECKED IN . . . 2 . . . POINTS TO VERIFY THE CLEANLINESS. RESULT: SATISFACTORY b) SCREEN CHECK n° . . . 1 . . . Screens too microns: 100. n° OF PARTICLES: less than allowed by API 614 <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th rowspan="2">DN</th> <th rowspan="2">N° screens</th> <th colspan="4">Sch.</th> </tr> <tr> <th>40</th> <th>80</th> <th>160</th> <th>16</th> </tr> <tr> <td>80</td> <td>1</td> <td></td> <td></td> <td></td> <td>X</td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>					DN	N° screens	Sch.				40	80	160	16	80	1				X																		
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		40	80	160	16																																	
80	1				X																																	
5 HYDROSTATIC TEST (oil system): . . . 8.8 BARG 6 LEAK CHECK : NO LEAKAGE NOTED 7 VISUAL DIMENSIONAL CHECK : OK IN TOLERANCE																																						
RESPONSABILE COLLAUDO Test Engineer		ISPETTORE CLIENTE Customer Inspector		ISPETTORE CLIENTE Customer Inspector																																		
Quality Control ☒ WITNESSED ☐ REVIEWED DATE 13/5/05 SIGN. <i>[Signature]</i> Witnessed by: D. DEBROUX Reviewed date: 13/05/05		MAN Turbo TRC <i>[Signature]</i> 13.05.05																																				



lubisystem

S.r.l.

CERTIFICATE
FOR NOISE LEVEL TEST

C.300.16

Fg/Sht.

1 di/of 1

CLIENTE/Customer

MAN TURBO AG Schweiz

IMPIANTO/Plant

Kosair 2004

DATA/Date

06/05/2005

COMM./Job

0504A

TITOLO/Title

LUBE OIL SYSTEM INSERTION

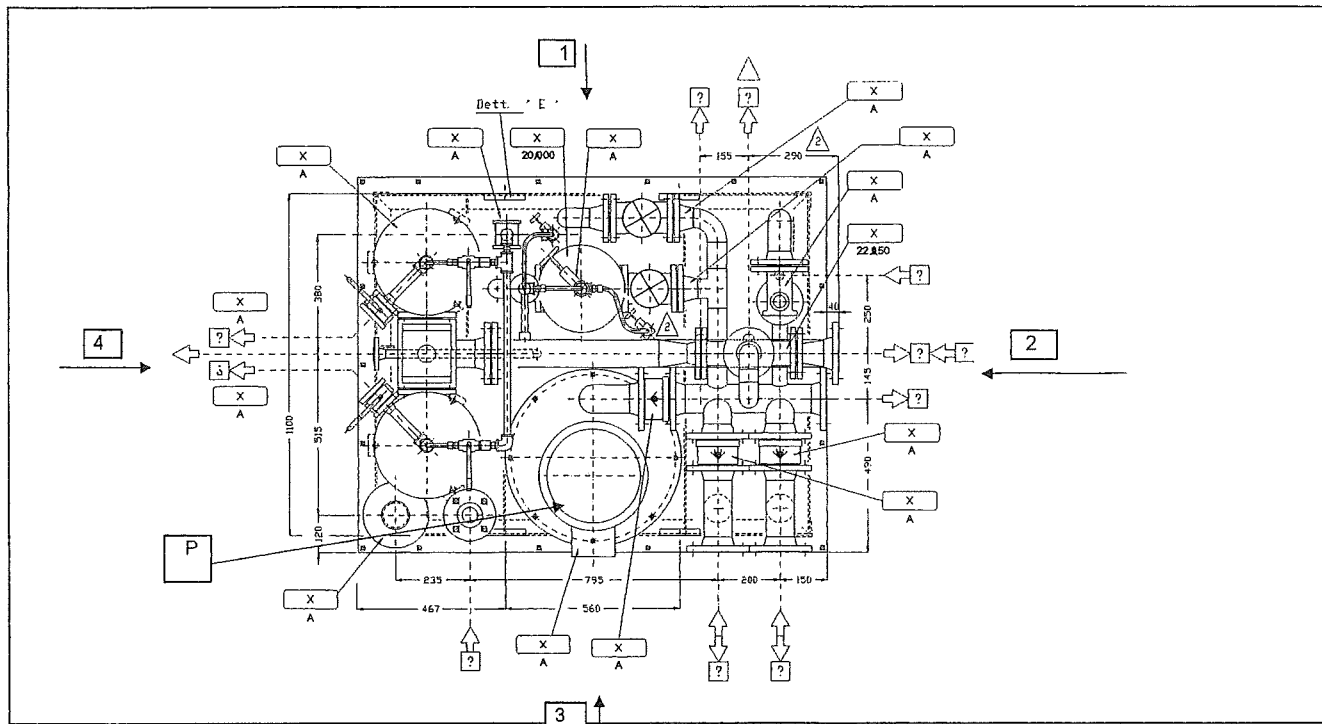
ORDINE/Order

4000877

REF.DIS./Dwg.

2116/3158.0

SKETCH OF SKID SHOWING MICROPHONE LOCATIONS



OVERALL dBA LEVEL READINGS

		BACKGROUND		AVERAGE	MICROPHONE LOCATIONS					
PUMP LOCATION		BEFORE	AFTER	BACKGROUND	PRIMARY P	1	2	3	4	
MAIN	ACTUAL	56	60							
"	dBA CORRECTED									
S.BY	ACTUAL				83,6	81,5	78,8	82,3	78,4	
"	dBA CORRECTED									

REMARK;

RESPONSABILE COLLAUDO
Test Engineer

ISPETTORE CLIENTE
Customer Inspector

ISPETTORE CLIENTE
Customer Inspector

lubisystem s.r.l.

Quality Control

☒ WITNESSED ☐ REVIEWED
DATE 13/5/05 SIGN. ...



Witnessed
by: D. DEBROUX
Reviewed

date: 13/05/05

MAN Turbo TRC
R. 05.05



2

OIL RESERVOIR COVER TOP

- M.P.I.
- Visual & Dimensional

		CERTIFICATO DI CONTROLLO MAGNETOSCOPICO Magnetic Particle Certificate		MTC 174/05		
Cliente Customer Lubisystem S.r.l.		Ordine cliente Customer order 60/05/0504-A		Sigla Item //		
Impianto Plant KOSAIR - MANTURBO		Numero di Fabbrica S/N LI 1351-A		Comm. Job 43/05		
Oggetto Object GANCI DI SOLLEVAMENTO - Lifting Lugs						
Pulitura Precleaning //		Disegno Drawing 3158.1		P.I.F. FASE M.I.S. FASE // //		
Specifica cliente Customer Specification		Specifica PRE. FI Applicabile PRE.FI Applicable Specification ASME VIII Div. I		Condizioni della Superficie Finished Surface ☐ Forgiato As forged ☐ Di macchina Premachined ☐ Sabbata Shot blasted ☐ Molata Ground ☒ Saldata As welded ☐ Altri Others		
Metodo di magnetizzazione Magnetization method	☐ Puntali Prods		☒ Gioco Yoke			
	Corrente Current		Corrente Current A. C.			
	Intensità Intensity		Distanza Distance 150 mm			
	Distanza Distance		Apparato N. Apparatus N.			
	Apparato N. Apparatus N.					
Metodo di ispezione Inspection method	☐ Secco Dry		☒ Umido Wet			
	Polvere Powder	☐ Grigio Gray	Polvere Powder	☒ Nero Black	Suspens. in Suspens. in	
		☐ Giallo Yellow		☐ Rosso Red		☐ Olio Oil
		☐ Rosso Red		☐ Fluorescente Fluorescent		☒ Acqua Water
		☐ Blu Blue		☐ Lunghezza d'onda luce nera Black Light Wave Length //		☐ Petrolio Kerosene
Marca Trade Mark		Marca Trade Mark METAL CHECK				
Risultati Results		☒ Conforme alla specifica According to spec.		☐ Da riparare To repair		
Procedimento di pulitura Cleaning Method Spazzolatura Brushing						
Smagnetizzazione Demagnetization N. A.						
Note - Notes						
Eseguito da Performed by LOCATI GIANCARLO II° LEVEL SNT - TC - 1A		Livello Level II°	Data Date 26.04.05	Presenza Presence Si ☐ No ☒ Yes None		
Interpretato da Interpreted by LOCATI GIANCARLO II° LEVEL SNT - TC - 1A		Livello Level II°	Data Date 26.04.05	Ispettore cliente Customer Inspector	Data Date	
Approvato da Approved by			Data Date	Ispettore autorizzato Authorized Inspector	Data Date	

 lubisystem		CERTIFICATO DI COLLAUDO VISIVO E DIMENSIONALE <i>Visual and Dimensional Test Certificate</i>		C.300.20
MATRICOLA/Serial N°: 050572		NORME DI COSTRUZIONE/Construction Code: Std MAN TURBO		Fg/Sht. 1 di/of 1
SCHEMA DI FLUSSO/Flow Diagram: 2116		DIS. G.A./G.A. Dwg. 3158.0		COMM.LS/Job 0504 A
COLL.ELETTR.STRUM./Electr.WiringDiagr. -----		DATA/Date 10/05/2005		

CLIENTE:
Customer

MAN TURBO AG Schweiz

ORDINE:
Order

N° 4000877

IMPIANTO:
Plant

KOSAIR 2004

APPARECCHIATURA:
Equipment

OIL RESERVOIR COVER TOP

PROVE E CONTROLLI ESEGUITI:
Tests and checks performed:

VISUAL AND DIMENSIONAL CHECK

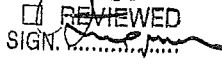
ESITO COLLAUDO:
Testing result:

SATISFACTORY

SI CERTIFICA CHE LA FORNITURA E' CONFORME ALLE SPECIFICHE, AI DISEGNI ED ALL'ORDINE RELATIVO E CHE E' STATA CONTROLLATA E COLLAUDATA IN CONFORMITA' ALLE NORME DI COSTRUZIONE E PROCEDURE:

We certify that the supply conform to the relevant specification, drawings and order and that same has been inspected and tested according to the construction code and procedures:

NOTE / Remarks:

RESPONSABILE COLLAUDO <i>Test Engineer</i>	ISPETTORE CLIENTE <i>Customer Inspector</i>	ISPETTORE CLIENTE <i>Customer Inspector</i>
 lubisystem s.r.l. Quality Control ☒ WITNESSED ☐ REVIEWED DATE 10-05-05 SIGN. 		



3

OIL PUMPS

- Functional Test

ELECTRIC MOTOR FOR OIL PUMPS

- Test certificate
- CE certificate

Certificato di collaudo / Test certificate

N° **66/05** Data / Date **29/03/2005**



Richiedente / Applying

Riferimenti / References

LUBISYSTEM S.r.l

49/05/0504A/B del 17/02/2005

Pompa modello / Pump size

N° di serie / Serial number

PX060#4BR0F000X01X0200

20-0001-38768

Modello e numero di serie sono impressi sulla targhetta di identificazione della pompa

Size and serial number are punched on the pump identification plate

Caratteristiche funzionali di riferimento

Functional reference characteristics

Data di collaudo Testing date	Portata <i>Del. flow</i>	Pressione di mandata <i>Supply pressure</i>	Pressione di aspiraz. <i>Suction pressure</i>	Regime di azionamento <i>Driving speed</i>	Viscosità cinematica <i>Kinematic viscosity</i>
	l/min.	bar G	bar G	rpm	cSt
	17/03/05	562,1	30	0	3000

Tolleranze ammesse sul valore di portata (l/min.)

Accuratezza secondo normativa VDMA 24284 cl. II gr. II

Allowances on delivery flow value (l/min.)

Accuracy according to VDMA 24284 regulations class II group II

Portata massima Maximum Del. flow	Portata minima Minimum Del. flow
l/min.	l/min.
618,3	534,0

Risultato del collaudo / Test results

Portata Del. flow	Pressione di mandata Supply pressure	Pressione di aspiraz. Suction pressure	Regime di azionamento Driving speed	Viscosità cinematica Kinematic viscosity	Fluido utilizzato Used fluid
l/min.	bar G	bar G	rpm	cSt	
544	30	0	3000	50,0	ISO VG32

Certifichiamo che il modello di pompa sopra indicato è stato sottoposto a collaudo e che le caratteristiche di funzionamento rilevate sono conformi alle procedure tecniche applicabili e/o alle caratteristiche specificatamente richieste.

We hereby certify that the pump as per abovesaid size has been tested and found to be in accordance with applicable technical documentation and/or with duty conditions requirements.

SEIM S.r.l. - Assicurazione di Qualità



SEIM S.r.l.

Via A. Volta, 17
20090 Cusago (MI) Italy

CERTIFICATO DI CONFORMITA' N°
CERTIFICATE OF CONFORMITY Nr.

66/05

Spettabile **LUBISYSTEM S.r.l**

Riferimento: **Vs. Ordine N° 49/05/0504A/B del 17/02/2005**

La presente per confermarVi che le pompe a 3 viti tipo
The present to confirm you that the 3-screw pumps type

PX060#4BR0F000X01X0200

Numero di serie - *Serial number*

20-0001-38768

sono state prodotte in conformità con le caratteristiche indicate nelle
nostre schede tecniche e con le specifiche del sistema qualità ISO 9001.

*have been produced in conformity with the specs mentioned in our
technical documentation and in accordance with ISO 9001
Quality System specifications.*

Cusago, 29/03/2005

SEIM S.r.l. - Responsabile Qualità / Quality Manager


MarelliMotoris.p.a.

 PART OF THE **FKI** GROUP OF COMPANIES

SALA PROVE / TEST ROOM

Data

22-03-2005

CERTIFICATO DI PROVA PER MOTORE ASINCRONO TEST CERTIFICATE for ASYNCHRONOUS MOTOR				DATI DI TARGA NAMEPLATE																											
STANDARD:		IEC 34 -2 CEI 2-3		PCQ n. SPECIFICA		MOTORE TIPO TYPE A4C 200 LA2																									
ORDINE MARELLI ORDER		510305		pos 10		MATRICOLA SERIAL R 014516																									
CLIENTE CUSTOMER		LUBI SYSTEM S.R.L.				ITEM																									
ORDINE CLIENTE		4110510504				Codice Code A4C2061Q00023																									
PROGETTO PROJECT						Forma Shape V1																									
CANTIERE SHIPYARD						Prot. prot. IP 55																									
COSTR. NAVALE SHIPBUILDING						Servizio Duty S1																									
						T.A. °C 40																									
						Isol. F/B																									
						CESI																									
						Certif. n°																									
Misure di resistenza a freddo Cold resistance measure				Temperatura amb. ambient temperature																											
<table border="1"> <tr> <th>statore</th> <th>Coll</th> <th>mohm</th> </tr> <tr> <td>fase U</td> <td>346,50</td> <td></td> </tr> <tr> <td>fase V</td> <td>346,35</td> <td></td> </tr> <tr> <td>fase W</td> <td>346,43</td> <td></td> </tr> </table>				statore	Coll	mohm	fase U	346,50		fase V	346,35		fase W	346,43		<table border="1"> <tr> <th>rotore</th> <th>Coll</th> <th>mohm</th> </tr> <tr> <td>fase K</td> <td></td> <td></td> </tr> <tr> <td>fase L</td> <td></td> <td></td> </tr> <tr> <td>fase M</td> <td></td> <td></td> </tr> </table>				rotore	Coll	mohm	fase K			fase L			fase M		
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Prova a vuoto No load test				<table border="1"> <tr> <th>V</th> <th>A</th> <th>W</th> <th>Cos φ</th> <th>Pj</th> <th>le+mec</th> </tr> <tr> <td>400</td> <td>11,00</td> <td>1336</td> <td>0,176</td> <td></td> <td></td> </tr> </table>				V	A	W	Cos φ	Pj	le+mec	400	11,00	1336	0,176														
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Coll. Δ																															
Perd. ferro iron losses				W																											
Perd. mecc. mecc. losses				W																											
Prova di corto circuito Locked rotor test				<table border="1"> <tr> <th>V</th> <th>A</th> <th>kW</th> <th>Cos φ</th> <th>kgm</th> </tr> <tr> <td>Δ</td> <td>//</td> <td>//</td> <td>//</td> <td>//</td> </tr> </table>				V	A	kW	Cos φ	kgm	Δ	//	//	//	//														
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Δ	//	//	//	//																											
Coll. Δ																															
				<table border="1"> <tr> <th></th> <th></th> <th>Unità</th> </tr> <tr> <td>Coppia nom. / Rated torque</td> <td>6,11</td> <td>kgm</td> </tr> <tr> <td>Corrente avv. / Start. Current</td> <td></td> <td>p.u.</td> </tr> <tr> <td>Coppia avv. / Start. Torque</td> <td></td> <td>p.u.</td> </tr> </table>						Unità	Coppia nom. / Rated torque	6,11	kgm	Corrente avv. / Start. Current		p.u.	Coppia avv. / Start. Torque		p.u.												
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Misura della velocità di vibrazione vibrations speed measurement				IEC 34-14 Intensità N																											
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1	2	3	4	5	6																										
orizz.	vert	assiale	orizz.	vert.	assiale																										
//	//	//	//	//	//																										
Prova di tensione applicata / High voltage test				Resist. d'isolamento / insulation test																											
Contro massa sec. 60 kV 2,0				a 500 V DC > 100 MΩ																											
Tra le fasi sec. 60 kV 2,0				Auxiliary Insulation Resistance > 50 Mohm																											
Rapporto di trasformazione (motori con rotore avvolto) transformer ratio				Indice di polarizzazione Polarization index																											
V1				//																											
V2																															
Rumorosità media Noise level				Verifica accessori ausiliari Auxiliary Scaldiglie / Heaters																											
81 dB(A)				<table border="1"> <tr> <th>V</th> <th>W</th> <th>Ω</th> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>				V	W	Ω																					
V	W	Ω																													
Sovravelocità Overspeed				Termoprotettori PT100:																											
// RPM per 2 min				Termoprotettori PTC:																											
Senso ciclico Phase sequence				Altre caratteristiche / Other characteristics																											
clock wise				Tropicalizzazione / Tropicalized																											
				Servoventilato / Aux.fan																											
				Verniciatura secondo Spec. RAL																											
				Painting according Spec.																											
NOTE																															
Procedure Marelli Motori di Riferimento: F 96921 - F 96470 - F 96432 - F 96433 MARELLI MOTORI reference procedures : F 96921 - F 96432 - F 96433																															
Banco prova B5P Foglio 1		TEST ROOM MARELLI MOTORI S.p.A.			ISPETTORE																										



MarelliMotori


FKI Energy Technology

Reception tel. (+39) 0444 479011
 Fax Reception (+39) 0444 479006
 Fax Commerciale (+39) 0444 479073
 Fax Amministrazione (+39) 0444 479043
 Fax Assistenza Tecnica (+39) 0444 479057
 www.fki-el.com/ma e-mail: sales@marellimotori.com

Capitale sociale Euro 5.200.000 int. vers.

Sede legale e Stabilimento:

Marelli Motori S.p.A.

Via Sabbionara, 1 - 36071 ARZIGNANO (VI) ITALIA

Codice Fisc. e P. IVA n. 02523820245
 Iscr. Reg. Impr. di Vicenza n. 590/1996
 R.E.A. n. 237401

DICHIARAZIONE DEL COSTRUTTORE

Noi **Marelli Motori S.p.A.**
 Via Sabbionara, 1 - ARZIGNANO (Italia)

dichiariamo che il prodotto da noi costruito per impiego in ambiente industriale

Motore asincrono trifase a bassa tensione

serie **MA** grandezze **63 - 132**

serie **A4** grandezze **160 - 315 S**

serie **B4** grandezze **160 - 315**

serie **B5** grandezze **355 - 400**

è conforme ai requisiti essenziali della **Direttiva Bassa Tensione 73/23/CEE** modificata dalla 93/68/CEE) ed è conforme alla EN 60034-1 (IEC 60034-1).

Il prodotto sopra indicato soddisfa inoltre, come componente, ai requisiti essenziali della **Direttiva Compatibilità Elettromagnetica 89/336/CEE** e sue modifiche 92/31/CEE e 93/68/CEE (Norme EN 50081-2 ed EN 50082-2).

Per la **Direttiva Macchine (89/392/CEE e sue modifiche 91/368/CEE, 93/44/CEE e 93/68/CEE)** il prodotto sopra indicato viene considerato come componente e pertanto si effettua la seguente Dichiarazione di Incorporazione (art. 4.2 ed Allegato II B della Direttiva):

"La macchina elettrica sopra descritta deve essere installata in accordo alle nostre Istruzioni e Avvertenze sulla Sicurezza ed alla Norma EN 60204-1 (Safety of Machinery - Electrical equipment of machines - Part 1: General requirements) e non deve essere messa in servizio prima che la macchina in cui sarà incorporata sia stata dichiarata conforme alla Direttiva Macchine stessa".

Il livello di pressione sonora varia in funzione della grandezza e della polarità.

I massimi valori, compresi tra gli 80 e gli 85 dB(A), si possono riscontrare nei motori a 2 poli di grandezza a partire dal 250 e con alimentazione a 50 Hz sinusoidale.

Per i dati specifici di rumorosità riferirsi comunque alla documentazione tecnica.

Nota sulla Compatibilità elettromagnetica.

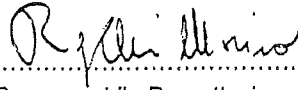
I motori elettrici costituiscono componenti che vengono incorporati in altre macchine/sistemi/impianti.

Pertanto il comportamento EMC risultante è sotto la responsabilità del costruttore della macchina/sistema/installazione in cui il motore viene incorporato.

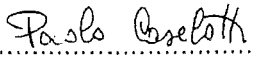
Correnti non sinusoidali possono generarsi a causa della natura del carico (tipico il caso di compressori alternativi) e ciò può provocare armoniche originanti disturbi.

L'alimentazione del motore mediante inverter può provocare l'emissione di disturbi. E' perciò importante seguire le istruzioni fornite dal costruttore dell'inverter, ad es. impiegando cavi schermati di alimentazione del motore.

Si rammenta che, per rendere efficace la schermatura, questa non deve subire interruzioni nella zona di collegamento al motore (impiego di bocchettoni metallici appositi che garantiscono il collegamento alla massa (terra) del motore a 360° attorno al cavo).

Firma:  (Marino Reghellin)

Titolo: Responsabile Progettazione Macchine Asincrone

Firma:  (Paolo Caselotti)

Titolo: Direttore Tecnico

PART OF THE  FKI GROUP OF COMPANIES

ED_A06

Data: 11 ottobre 2001

Ufficio
Vendite Estero

Via Sabbionara 1
36071 Arzignano (VI)
Tel. 0444 479002
Fax 0444 479888

Filiali Italia

• **Vicenza**
Via Sabbionara 1
36071 Arzignano (VI)
Tel. 0444 479011
Fax 0444 479035

• **Milano**
Via Cesare Cantù 3
20092 Cinisello Balsamo (MI)
Tel. 02 66013166
Fax 02 66013483

• **Bologna**
Via dei Fornaciari 11
40129 Bologna
Tel. 051 327893
Fax 051 327889

• **Firenze**
Via dei Panciatichi 37/2
50127 Firenze
Tel. 055 431838
Fax 055 433351



4

ELECTRIC HEATER

- Test certificate
- CE conformity

0504

FATI



S. R. L.

ISO 9001
CERTIF. N. 9105



ISCRITTA AL TRIBUNALE DI MILANO
SOC. 51217, VOL. 1714, FASC. 5537
C.C.I.A.A. MILANO N. 339206
TELEGRAMMI: FATIRES - CUSAGO
TELEFAX (02) 9019548
CONTO CORR. POSTALE N. 23835200
20090 CUSAGO (MI) - VIA VOLTA, 52
TELEFONO (02) 90.19.530/1/2
COD. FISC. PART. IVA N. 0073022.015.9

FABBRICA APPARECCHIATURE TERMoeLETTRICHE INDUSTRIALI

CAPITALE SOCIALE L. 470.448.000 INTER. VERSATO

RESISTENZE ELETTRICHE CORAZZATE

CUSAGO, 11 MAG 2005

NS. RIF. TE / m

VS. RIF. 53/05 (17/2/05)

LUBISYSTEM

The company: **F.A.T.I. s.r.l. Fabbrica Apparecchiature
Termoelettriche Industriali**

declares that the product: Insulated Electric Resistances:

is consistent with the provisions of the directive 89/336
"ELECTROMAGNETIC COMPATIBILITY" (amended by the
directives 92/31 and 93/68) and with the national legislation of
implementation;

is also consistent with the provisions of the following EEC directive bound by the directives mentioned above:
EEC Directive "Low Tension" -73/23-93/68;

is consistent with the national legislations and with the inherent
technical provisions.

THIS CERTIFICATE IS IN CONFORMITY WITH : UNI EN 45014.

Cusago-Milano date.....

Signature



FATI

S. R. L.

**esq**ISO 9001
CERTIF. N. 9105

DOCUM. N°

FOGLIO / sheet

di / of

1

1

TEST CERTIFICATE

SEE ALSO GENERAL NOTES

Manufacturer: **F.A.T.I. S.R.L. - CUSAGO (MILANO) ITALY**Customer: LUBISYSTEMOrder and date: 53/05 (17/2/05)

TECHNICAL SPECIFICATION

ELECTRIC HEATER:

Power rating: n. 1 kW 3
Nominal voltage: ☐ 110 V ☐ 220 V ☒ 380 V ☐ 415 V ☐ V 3 phase
Current/phase: 4,6 ampere -
Electric connection: ☐ SINGLE PHASE ☒ STAR ☐ DELTA

TEST:

Dielectric rigidity: ☐ 1500 ; ☒ 2000 ; 2500 ; ☐ V x 1"
Insulation: ☐ > 10 ; ☒ > 20 ; ☐ > 50 ; ☐ MΩ
Hydraulic test: Pressure 15 Bar x 4h

DIMENSIONS - FLUID CHARACTERISTICS

Fluid to be heated: ☐ OIL ; ☐ AIR ; ☐ WATER ; ☐
Max watt density: 1,4 W/cm²
Max length: 1380 mm - Unheated elem. length: 130 mm -
Flange ~~Size~~ Size: UNI 6091 PN 6 NPS 10
Flange ~~material~~ material: ☐ CARBON STEEL ☒ AISI 304 ☐ AISI 316 ☐
Sheath Material: ☐ FE 35.2 ☒ AISI 304 ☐ AISI 316 ☐
Type of protection: ☒ WATERTIGHT IP 65
☐ EXPLOSION PROOF EEx-d II T IP65
Electric connection: 3/8" + 1/2" ☒ GAS ; ☐ NPT ; ☐ GK 6125
Thermostast type : ☐ BSA ; ☐ NS41 ; ☐ MIGNON ☒ CAEM
Reset : ☒ 85°C ; ☐ 50°C ; ☐°C

DRAWING

N°

CESI CERTIFICATE

☐ AD 82.055X ☐ AD 82.056X ☐ AD 82.057X

CESI CERTIFICATE

☐ EX 90.C.026X ☐ EX 90.C.027X ☐ EX 90.C.028X

11 MAG 2005

Cusago,

We certify that the material detailed hereon has been produced and inspected in accordance with the conditions and requirements of the contract or purchase order and unless otherwise noted conforms in all respects to the specification relevant thereto.

F.A.T.I. S.R.L.**F.A.T.I. srl**
P. S. TOMEA

THIS CERTIFICATE IS IN CONJUNCTION

WITH : UNI EN 10204 3.1.B.



5

OIL COOLER

- Declaration of exclusion from CE marking
- Hydrostatic test report
- Liquid penetrant
- Dimensional and visual

FLOVEX S.P.A.

VIA ABRUZZI, 4/6 20056 GREZZAGO MI
TEL.+39-2-9201921 FAX.+39-2-92019239
Cod Fisc. e P.IVA 07900640157



CUSTOMER: LUBISYSTEM

ORDER N°: 35/05/0504°/B

FLOVEX MOD.: AEW/S 1008-19-2

SN: AB0705-AB0706

DATE: 09/05/05

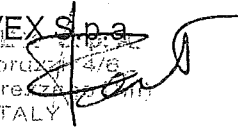
DICHIARAZIONE ESENZIONE COLLAUDO PED

In riferimento all' ordine in oggetto si dichiara che tali apparecchiature, per le condizioni di progetto, 8 bar / 100°C, 10 bar /100°C e per il fluido contenuto Acqua / Olio (entrambi del gruppo II non pericolosi) e per le capacità in gioco risultano ricadere nell' art. III par. III della direttiva 97/23 CE (PED).

DECLARATION OF EXCLUSION FROM CE MARKING

Referring to the equipment as above and for the order in object, is stated by FLOVEX that; for the design conditions 8 bar / 100°C , 10 bar / 100°C, for the type of fluids used inside the equipment, Water / Oil (belonging both to the PED group II not harmful), and for the considered volumes, it falls in the art. III par. III of the 97/23 ECC (PED) Directive. For this reason, this type of equipment must not be provided with CE marking.

FLOVEX S.p.A.
Via Abruzzi 4/6
20056 Grezzago MI
ITALY

A handwritten signature in black ink is written over the company name and address.

FLOVEX S.p.A

Via Abruzzi 4/6 - 20056 Grezzago (MI) - ITALY

fax:+39 02 92019239; tel.+39 02 9201921

e-mail: flo@flovex.it

**Certificato di collaudo idraulico Nr. 114/05**

Test certificate

HYDROSTATIC TEST REPORT

MODEL	AEW/S 1008-19-2	Q.ty	2
SERIAL Nr	AB0705 - AB0706	YEAR MAN.	2005
ITEM	-----	FLOVEX JOB	254
CONSTR. CODE	AD 2000 MERKBLATTER	DWG Nr.	050241 rev.1
CUSTOMER	LUBISYSTEM	ORDER Nr	35/05/0504A/B

Side tested	U.M.	SHELL SIDE	TUBE SIDE
Fluid used for test	---	Water (*)	Water (*)
Test pressure	Bar G	12	15
Time test	hr	1 (one)	1 (one)
Metal temperature	°C	20	20
Pressure gauge Serial No	No	SM 047/051	SM 047/051
Pressure gauge range	Bar G	0 ÷ 40	0 ÷ 40
Result	---	Satisfactory	Satisfactory

According ASME VIII Div.1 UG 99

(*) Water + AQUAMET S300 (10 - 15 % in solution of water). Used procedure No 3.

Flovex	Customer	Inspector
Data 04/05/05	Data	Data
Firma  FLOVEX S.p.A. Via Abruzzi 4/6 20056 Grezzago (MI) ITALY	Firma	Firma

Attenzione: Questo apparecchio è stato collaudato in pressione con una miscela di acqua e olio.
Per quanto sia stato accuratamente drenato ed asciugato, tracce di acqua possono
essere rimaste al suo interno. Pertanto deve essere areato e flussato prima dell'utilizzo.

Attention: This manufacture has been tested with a mixture of water and oil in pressure.
For how carefully it has been drained and dried, traces of water can still be in it .It's
necessary to blow air in abundance inside before use

FLOVEX S.p.A

Via Abruzzi 4/6 - 20056 Grezzago (MI) - ITALY

fax: +39 2 92019239; tel. +39 2 9201921

e-mail: flo@flovex.it

**Certificato liquidi penetranti**

Dye penetrant test report

Nr. 034/05

MODEL	AEW/S 1008-19-2	Q.ty	2
SERIAL Nr	AB0705 - AB0706	YEAR MAN.	2005
ITEM	-----	FLOVEX JOB	254
CONSTR. CODE	AD 2000 MERKBLATTER	DWG Nr.	050241 rev.1
CUSTOMER	LUBISYSTEM	ORDER Nr	35/05/0504AB

Controllo secondo spec:

Applicable spec.: UNI-EN473-AD2000

Stato superficie: come saldato

Surface condition: as welded

Pre-PULITORE

Pre-Cleaner Solvent If necessary

PENETRANTE

Penetrant CGM Red Ww

APPL. PENETRANTE

Penetrant appl. Pressurized Can

RIVELATORE

Developer CGM ROTRIVEL U WHITE W

RIM. PENETRANTE

Penetrant removal Water+cloths

PULITORE DOPO CONTROLLO

Cleaner after examination Water+cloths

ESSICAZIONE

Drying process Natural

TEMPERATURA DELLE SUPERFICI

Surface temperature 16°C

APPL. RIVELATORE

Developer appl. Pressurized Can

TEMPO di INTERPRETAZIONE

Developer Dwell Time after 10 & 60 min.

TEMPO MINIMO DI PENETRAZIONE

Penetration time minimum 15 min.

NOTE:

Lighting condition: guaranteed by a 60 W bulb lamp at 20 cm distance.

NOTE:

Remarks: EXTENSION EXAMINED: 100% OF WELDS

ESITO:

Result: ACCEPTABLE (FOR AS PER AD2000)

Flovex	Customer	Inspector
Data	Data	Data
PROVE ESEGUITE DA GRANDIETTORE	Firma	Firma
Test conducted by FLOVEX S.p.A. Via Abruzzi, 4/6 20056 Grezzago (MI) II LEV. PT/LP ITALY		

FLOVEX S.p.A

Via Abruzzi 4/6 - 20056 Grezzago (MI) - ITALY
fax: +39 2 92019239; tel. +39 2 9201921
e-mail: flo@flovex.it

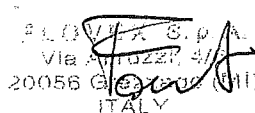
**Certificato visivo e dimensionale****Nr. 068/05**

Dimensional and visual certificate

MODEL	AEW/S 1008-19-2	Q.ty	2
SERIAL Nr	AB0705 - AB0706	YEAR MAN.	2005
ITEM	-----	FLOVEX JOB	254
CONSTR. CODE	AD 2000 MERKBLATTER	DWG Nr.	050241 rev.1
CUSTOMER	LUBISYSTEM	ORDER Nr	35/05/0504A/B

We confirm that visual and dimensional check has been made.
The equipment is according to drawing.

Si certifica che al controllo visivo e dimensionale, l'apparecchiatura è in accordo al disegno sopracitato.

Flovex	Customer	Inspector
Data 04/05/05	Data	Data
Firma  FLOVEX S.p.A. Via Abruzzi 4/6 20056 Grezzago (MI) ITALY	Firma	Firma



6

OIL FILTER

- Inspection certificate
- Name plate

**Abnahmeprüfzeugnis nach DIN 50049 / EN 10204 - 3.1.B**

Inspection Certificate according to DIN 50049 / EN 10204 - 3.1.B

Certificat de reception selon la norme DIN 50049 / EN 10204 - 3.1.B

Certificado de prueba referente a la DIN 50049 / EN 10204 - 3.1.B

Erstellt von/am:

Abt.QS/01.12.96

Geändert von/am:

QS/Ohlau/28.10.03

Hersteller:	INTERNORMEN Technology GmbH	Kunde:	Olaer Italiana SPA
Hersteller:	Friedensstr. 41	Customer:	
Fabricant:	68804 Altlußheim	Client:	
Fabricante:		Cliente:	
Teile - Nr.:	325400	Kunden - Nr.:	108428
Part no.:		Customer no.:	
Numéro d'article:		Numéro de client:	
Pieza no.:		Cliente no.:	
Fabrik.- / Auftrags - Nr.:	465465-10 (2/3) A+B	Bestell - Nr.:	PO 1373
Serial no.:		Customer order no.:	
Numéro d'usine:		Numéro de commande:	
No. del.fabricación:		Pedido no.:	

Technische Daten / Technical Data / Données techniques / Datos Tecnicos

Filtertyp:	1 x DNR 1005.16VG.10.B.P.-FD1.A.-.-OE1	Maßblatt - Nr.:	2141
Filter type:		Data sheet no.:	
Type de filtre:		Fiche technique no.:	
Tipo filtro:		Hoja no.:	
max. Betriebsüberdruck:	16 bar	Baujahr:	2005
operating pressure:		Year of construction:	
pression de service maxi.:		Année de fabrication:	
Sobrepresión máx. de servicio:		Año construcción:	
Prüfüberdruck:	20,8 bar	Temperatur:	80 °C
Test pressure:		Temperature:	
Pression d'essai:		Température:	
Prueba de sobrepresión:		Temperatura:	

Hiermit wird bescheinigt, daß das Filter der Type

1 x DNR 1005.16VG.10.B.P.-FD1.A.-.-OE1

Herewith we certify that the type of filter / Avec cela nous certifions que le filtre de type / Certificamos que el filtro del tipo
einer ständigen Fertigungs- und Qualitätskontrolle unterliegt. Nach Fertigstellung werden die Filter
einer Endkontrolle unterzogen.

is permanently submitted to a control of manufacturing and quality. After manufacturing the filter passes a final control.
est soumis au contrôle de fabrication et qualité.

Après l'achèvement nous avons un contrôle final pour tous les filtres.

está sometido a un control constante de fabricación y de calidad. Una vez fabricado el filtro, se le somete a un
control de calidad final.

Der Werksachverständige
Factory expert / Expert d'usine / Perito

07.04.05

Folgende Materialien wurden verwendet: / The following materials were used / Désignations des matières utilisées / Se emplearon los siguientes materiales

Benennung:	Material:
Designation / Désignation / Denominación	Material / Matière / Material
Blindflansch / blank flange / bride aveugle / brida ciega	NW 200 : C 22.8
V-Flansch / V-flange / V-bride / V-brida	NW 200 : C 22.8
Rohr / pipe / tuyau / tubo	Ø 219,1 : St 37.0
Klöpferboden/dished filter end/fond torosphérique/fondo abovedado o toro esférico	: H11/P265GH
Rohr / pipe / tuyau / tubo	Ø 88,9 : St 37.0
Flansch / flange / bride / brida	NW 80 : S355J2G3
T-Stück / T-piece / T-piece / T-pieza	: ---
Kükengehäuse/switching housing/corps de boisseau/carcasa macho grifo	: S355J2G3
Flansch / flange / bride / brida	SAE 3" : St 52.3
V-Flansch / V-flange / V-bride / V-brida	NW 80 : C 22.8
Verschlußschraube / screw plug / vis de fermeture / tornillo de cierre	: 5.6
Schraube / screw / vis / tornillo	: 8.8
Mutter / nut / écrou / tuerca	: 8
O-Ring / O-ring / joint torique / junta tórica	: Perbunan (NBR)

INTERNORMEN Technology GmbH

D-68804 Altlußheim, Friedensstr. 41

Qualitätssicherung

Telefon +49 (0) 62 05 - 20 94-0

Telefax +49 (0) 62 05 - 20 94-740

Unterschrift - Endkontrolle

Signature of final control

Signature - contrôle finale

Firma-Control Final

07.04.05

INTERNORMEN Technology GmbH

D-68804 ALTLUSSHEIM Telefon +49 (0) 62 05 / 20 94 - 0 Fax +49 (0) 62 05 / 20 94 - 40 Internet: www.internormen.com

Bemerkungen :

Linkes Typenschild:

INTERNORMEN Technology GmbH	
D-68804 ALTLUSSHEIM · www.internormen.com	
Type: type	DNR 1005.16VG.10.B.P.-.FD1.A.-.OE1
Element-Nr.: element no	306607
Fabr.-Nr.: serial no	465465-10 (2/3) A
Baujahr year of construction	2005
Zulässiger Betriebsdruck max. operating pressure	16 bar
Prüfdatum: test date	31.03.2005
Prüfdruck test pressure	20,8 bar
Betriebstemperatur min/max operating temperature min/max	-10 bis + 80 °C
Inhalt content	23 L

Rechtes Typenschild:

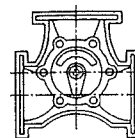
INTERNORMEN Technology GmbH	
D-68804 ALTLUSSHEIM · www.internormen.com	
Type: type	DNR 1005.16VG.10.B.P.-.FD1.A.-.OE1
Element-Nr.: element no	306607
Fabr.-Nr.: serial no	465465-10 (2/3) B
Baujahr year of construction	2005
Zulässiger Betriebsdruck max. operating pressure	16 bar
Prüfdatum: test date	31.03.2005
Prüfdruck test pressure	20,8 bar
Betriebstemperatur min/max operating temperature min/max	-10 bis + 80 °C
Inhalt content	23 L



7

VALVES

- Temperature control valve
- Pressure control valve
- Safety valve
- Ball valve
- Gate & Globe valve
- Check valve



Works:
17-19 Sutton Road
St. Albans, Herts. AL1 5JQ
Phone: 01727 858539 & 851377
Fax: 01727 862166

61 London Road
St Albans, Herts AL1 1LJ
Phone: 01727 855616
Fax: 01727 841145

WORKS TEST CERTIFICATE

Purchaser: Lubisystem Srl
Via F. LLI Zoia 75
20153 Milano
Italy

Order No: 45/05/0504/A/B

Works Order No: 0100001897

No. Off	Serial No	Type	Size Mm	Matl.	Press Test	Valve Position % Open to Cooler					W.E. Drawing No.
						Start	25	50	75	Full	
2	S/N 01249 - 01250 Handing LB Cast Nos: S/N 01249 S/N 01250	T WE1268 -012/GA Case 31195 31195	50 Cover 31195 27565	SG Iron	12 Bar	40	43	45	47	50°C	WE.19646

Inspectors Stamp: K. Robinson

This is to certify that the items detailed above have been manufactured from materials to the specifications required by the order.

For and on behalf of
walton ENGINEERING CO LTD

Signed: J.C. Godfrey J.C. Godfrey

Date: 20th April 2005

INSPECTION BOOK

<u>CUSTOMER</u>	LUBISYSTEM S.r.l.
<u>PLANT</u>	TBA - CINA
<u>YOUR REF.</u>	51/05/0504 A/B
<u>MASONEILAN REF.</u>	O242

TAG.

Serial. 214778

FINAL TEST CERTIFICATECUSTOMER LUBISYSTEM S.r.l.
P.N. NO. 51/05/0504 A/B
MASONIELAN REF. 0242Z002G
SERIAL 214778**VALVE & ACTUATOR**

Type 10900-536H Size 2 inches	Packing TEFLON reinforced
CONNECTIONS RF Flanged 150 ANSI B16.5 RF (Serrated Spiral 125-250 AARH)	ACTUATOR Diaphragm mod. 10900 Size Mod. 10900 9.00 inches Air To Open Air Supply Bench Range 15-40 psi Handwheel Without handwheel
FLOW Open	

ACCESSORIES

POSITIONER Type Without positioner Model Without positioner Input signal Action	LIMIT SWITCH Manufacturer Model Type Position Certification Electric Connec.
INTER Rel Without air set es. Range Without air set	

ACCESSORIESSOLENOID VALVE
Manufacturer
Model
No. of ways
Pn. connections
Port Size
Voltage
Certification**MATERIAL CERTIFICATE**

COMPONENT	MATERIAL	COMPONENT	HEAT NUMBER
Body	Carbon steel ASTM A216 Gr. WCC	CORPO/BODY	IU7892
Plug	ANSI 316	FLANGIA SUP./BONNET	PX8027
Guide Bushing	ANSI 440C		
Shaft	ANSI 316		
Seat	ANSI 316		

WE CERTIFY THAT CHEMICAL COMPOSITION AND MECHANICAL PROPERTIES OF MATERIAL SUPPLIED AGAINST THE ORDER ARE IN ACCORDANCE WITH THOSE OF ABOVE REFERENCED STANDARD MATERIAL.

TEST CERTIFICATE ACCORDING TO EN 10204-3.1.B

HYDROSTATIC TEST	2	PERFORMANCES
PRESSURE 31 Bar FLUID ACQUA/WATER PROCEDURE QC 015		
3 SEAT LEAKAGE		ACCORDING TO PROCEDURE: MASONIELAN QC020
LESS 146 NI/h PROCED. FCI 70-2 CLASS IV FLUID ARIA/AR TEST PRESSURE 50 PSI		
4 PACKING LEAKAGE TEST: QCE 019 - PRESSURE: 3,5 BAR - LEAKAGE:0		
5 ACTUATOR LEAKAGE TEST NPE019 PROCED. - PRESSURE: 1,5 TIME AIR SUPPLY - LEAKAGE:0		
6		

WE HEREBY CERTIFY THAT THE ABOVE REFERENCED ITEM HAS BEEN HYDRAULICALLY TESTED AND HAS BEEN TESTED FOR OPERATION AND SEAT LEAKAGE COMPLIES IN ALL RESPECT WITH THE TERMS AND CONDITIONS OF YOUR ORDER.

Customer's Inspection	Customer's Inspection	Masoneilan Quality Assurance Dept. DRESSER ITALIA S.r.l. DIV. MASONIELAN Quality Control Dept. M. Ferraro	C050.FRF Date 06/05/2005 pag 9
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CERTIFICATE OF TRIM COMPLIANCE

CUSTOMER	LUBISYSTEM S.r.l.				
ORDER NUMBER	51/05/0504 A/B				
MASONEILAN REF	O242Z002G				
SERIES VALVE	10900-536H				
TAG		SERIAL	214778	POS	2

214778

Plug Material	AISI 316
Guide Bushing Material	AISI 440C
Stem/Shaft Material	AISI 316
Seat Material	AISI 316

WE CERTIFY THAT CHEMICAL COMPOSITION AND
MECHANICAL PROPERTIES OF MATERIAL SUPPLIED
AGAINST THE ORDER ARE IN ACCORDANCE WITH THOSE
OF ABOVE REFERENCED STANDARD MATERIAL.

Customer's Inspection	Customer's Inspection	Masoneilan Quality Assurance Dept. DRESSER ITALIA S.r.l. DIV. MASONEILAN Quality Control Dept. <i>M. Ferraro</i>	C020.FRF Date 06/05/2005 pag 10
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CERTIFICATE OF GENERAL COMPLIANCE

CUSTOMER	LUBISYSTEM S.r.l.				
ORDER NUMBER	51/05/0504 A/B				
MASONEILAN REF	O242Z002G				
SERIES VALVE	10900-536H				
TAG		SERIAL	214778	POS	2

214778

WE HEREBY CERTIFY THAT WE HAVE CARRIED OUT THE FOLLOWING CHECKS ON THE MATERIALS SUPPLIED AGAINST THE ABOVE PURCHASE ORDER WITH FAVORABLE RESULT:

- VISUAL INSPECTION FOR STEEL CASTING ACCORDING **MSS-SP-55**
- COMPLIANCE WITH SPECIFICATION'S AND PURCHASE ORDER CHECK
- VISUAL AND DIMENSIONAL CHECK
- SUITABILITY ACTUATOR CHECK
- PNEUMATIC AND ACCESSORIES CHECK
- MARKING AND FLOW DIRECTION CHECK
- FUNCTIONAL TEST CHECK
- SEAT LEAKEGE TEST
- VERIFICATION OF FINAL DOCUMENTATION
- PERIODICALLY CALIBRATION ACCORDING INTERNAL PROCEDURE **QC 032**
FOR GAUGE AND INSTRUMENTS USED FOR TEST OF MATERIALS SUPPLIED
AGAINST THE ORDER.
- COMPLETENESS SUPPLY CHECK
- PACKING CHECK

Customer's Inspection	Customer's Inspection	Masoneilan Quality Assurance Dept. DRESSER ITALIA S.r.l. DIV. MASONEILAN Quality Control Dept. <i>M. Ferraro</i>	C010.FRF Date 06/05/2005 pag 11
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CERTIFICATE OF COMPLIANCE OF PAINTED METAL SURFACE

CUSTOMER	LUBISYSTEM S.r.l.				
ORDER NUMBER	51/05/0504 A/B				
MASONEILAN REF	O242Z002G				
SERIES VALVE	10900-536H				
TAG		SERIAL	214778	POS	2

214778

WE HEREBY CERTIFY THAT PAINTING OF THE ABOVE
 REFERENCED EQUIPMENTS HAS BEEN TESTED FOR
 OPERATION CHECKED AND COMPLIES IN ALL RESPECTS
 WITH THE TERMS AND CONDITIONS OF YOUR ORDER .

Customer's Inspection

Customer's Inspection

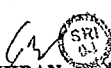
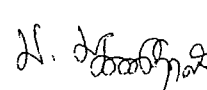
Masoneilan Quality Assurance Dept.

DRESSER ITALIA S.r.l.
 DIV. MASONEILAN
 Quality Control Dept.
M. Ferraro

C070.FRF

Date
 06/05/2005

pag 12

Society and address of Works Raison sociale et adresse de l'usine  Sri Ranganathan Industries Pvt. Ltd. 12/45, THADAGAM ROAD, EDAYAPALAYAM, COIMBATORE - 641 025. INDIA. Fax : +91 - 422 - 2400773 Phone : 0422 - 2400141 E-mail : sri@md3.vsnl.net.in website : www.sriindia.net		DRESSER ITALIA S.R.L. MASONEILAN OPERATIONS 80020 CASAVATORE (NAPOLI) VIA CASSANO, 77		Initials of works Sigle de l'usine productrice SRI							
Certificate de reception - Proces-Verbal de reception		INSPECTION CERTIFICATE - INSPECTION REPORT NF - EN - 10204 3.1.B									
MN Purchase Order and date N° et Date de commande MN		87719 11-Feb-2005		MN part number N° de Repere MN							
Description and Size Designation et Dimension nominale du materiel		2" 150# 121K RF BODY FMC		QUANTITY QUANTITE							
Material specification Designation normalisee du Materiau		ASTM A216 WCC 93(03)/EN 10213-2 1.0619/1.0625 & SA 067 REV.S		MN drawing number N° de plan MN							
Certificate number & Date N° du certificat et date		060638B 19-Feb-2005		Suppliers Booking Number Enregistrement Fournisseur							
				1380 15-Feb-2005							
CHEMICAL ANALYSIS (%) Analyse Chimique											
C	Si	Mn	S	P	Cr	Ni	Mo	Cu	V	Heat Number N° de coulee IU7892	
0.186	0.309	0.870	0.020	0.024	0.055	0.212	0.015	0.031	0.001		
								RE	CE*		
								0.314	0.361		
MECHANICAL PROPERTIES -Caracteristiques Mecaniques-											
TENSILE Traction		Specification Norme		EN10002.1 & ASTM A370		IMPACT TEST : Joules Resilience		AT -20 °C		HARDNESS Durete	
										NACE MR #175	
Yield Strength E Mpa		Tensile Strength R Mpa		Elongation A% sur		Reduction of area Σ %		Specification Norme		CVN - 2mm (10 x 10 x 55 mm)	
0.2%				For 62.5 mm GL For 50 mm GL				EN10045.1		Specification Norme	
										BHN	
353		538		29.12 30.20		55.34		(32+42+44)/3=39		149	
HEAT TREATMENT TRAITEMENT THERMIQUE :						RAISED TO 920°C SOAKED FOR 3 HRS AND THEN AIR COOLED.					
Treatment(s) carried out Traitement effectue(s)		Temperature use Montee en temperature		Sustained Maintien		Cooling Refroidissement		Temperature when leaving furnace Temperature de sortie du four			
		Gradient and duration Gradient et duree		Temperature and duration Temperature et duree		Gradient and duration Gradient et duree					
Normalising		150°c Per Hour		920 °C 3.00 Hrs		AIR COOLED		920 °C			
SPECIAL TESTS Essais speciaux $CE^* = C + (Mn/6) + ((Cr + Mo + V)/5) + ((Ni + Cu)/15)$						VISUAL AND DIMENSIONAL INSPECTION RECORD Dim - Confirms to Drawing refered on P.O Certificat de controle visuel et dimensionnel VISUAL - Confirms to MSS SP-55 and NF EN 1370 WE CERTIFY THAT THE ABOVE MENTIONED MATERIALS ARE IN COMPLIANCE WITH REQUIREMENTS OF ORDER Nous certifions que la fourniture de la commande ci-dessus Referencee est conforme aux exigences de la commande STAMPED ON FLANGE ISO PN: 20					
OBSERVATIONS Observations											
1. WORKS APPOINTED INSPECTOR Agent de l'usine mandate  G. PARTHIBAN Manufacturer's Authorised Inspector				2. APPOINTED INSPECTOR Inspecteur mandate				3. SRI CONTROL Controle SRI 			

78/246

Form No : F-051A-R2

214778

Society and address of Works Raison sociale et adresse de l'usine  Sri Ranganathan Industries Pvt. Ltd., 12/45, THADAGAM ROAD, EDAYAPALAYAM, COIMBATORE - 641 025. INDIA. Fax : +91 - 422 - 2400773 Phone : 0422 - 2400141 E-mail : sri@md3.yanl.net.in website : www.srilindia.net		DRESSER ITALIA S.R.L. MASONEILAN OPERATIONS 80020 CASAVATORE (NAPOLI) VIA CASSANO, 77		Initials of works. Sigle de l'usine productrice SRI							
Certificate de reception - Procès-Verbal de reception		INSPECTION CERTIFICATE - INSPECTION REPORT NF - EN - 10204 3.1.B									
MN Purchase Order and date N° et Date de commande MN		87561 29-Dec-2004		MN part number N° de Repere MN							
Description and Size Designation et Dimension nominale du materiel		1.5"-2" 600# 121K STD BONNET FMC WOL		QUANTITY QUANTITE							
Material specification Designation, normalisee du Materiau		ASTM A216 WCC 93(03)/EN 10213-2 1.0619/1.0623 & SA 067 REV.3		MN drawing number N° de plan MN							
Certificate number & Date N° du certificat et date		060747A 06-Jan-2005		Suppliers Booking Number Enregistrement Fournisseur							
				1156 30-Dec-2004							
CHEMICAL ANALYSIS (%) Analyse Chimique											
C	SI	Mn	S	P	Cr	NI	Mo	Cu	V	Heat Number N° de coulee PX8027	
0.197	0.358	0.899	0.016	0.024	0.043	0.237	0.010	0.043	0.003		
								RE	CE*		
								0.336	0.377		
MECHANICAL PROPERTIES -Caracteristiques Mecaniques-											
TENSILE Traction		Specification Norme		EN10002.1 & ASTM A370		IMPACT TEST : Joules Resilience		AT -20 °C		HARDNESS Durete	
										NACE MR 0175	
Yield Strength E Mpa	Tensile Strength R Mpa	Elongation A% sur		Reduction of area %	Specification Norme		CVN - 2mm (10 x 10 x 55 mm)		Specification Norme		
0.2%		For 62.5 mm GL	For 50 mm GL		EN10045.1			BHN			
356	538	32.32	33.80	62.130		(44+42+42)/3=43				149	
HEAT TREATMENT TRAITEMENT THERMIQUE :						RAISED TO 920°C SOAKED FOR 3 HRS AND THEN AIR COOLED.					
Treatment(s) carried out		Temperature use Montee en temperature		Sustained Maintien		Cooling Refroidissement		Temperature when leaving furnace Temperature de sortie du four			
Treatment effectue(s)		Gradient and duration Gradient et duree		Temperature and duration Temperature et duree		Gradient and duration Gradient et duree					
Normalising		150°C Per Hour		920 °C 3.00 Hrs		AIR COOLED		920 °C			
SPECIAL TESTS Essais speciaux $CE^* = C + (Mn/6) + ((Cr + Mo + V)/5) + ((Ni + Cu)/15)$		VISUAL AND DIMENSIONAL INSPECTION RECORD Dm - Confirms to Drawing referred on P.O Certificat de controle visuel et dimensionnel VISUAL - Confirms to MSS SP-55 and NF EN 1378 WE CERTIFY THAT THE ABOVE MENTIONED MATERIALS ARE IN COMPLIANCE WITH REQUIREMENTS OF ORDER Nous certifions que la fourniture de la commande ci-dessus Referencee est conforme aux exigences de la commande									
OBSERVATIONS Observations HYDRO TEST AT 156 kg/cm², 3 MINUTES AND FOUND OK. HYDRO TESTED COMPONENTS ARE STAMPED WITH LETTER H											
1. WORKS APPOINTED INSPECTOR Agent de l'usine mandate  G. PARTHIBAN Manufacturer's Authorised Inspector				2. APPOINTED INSPECTOR Inspecteur mandate				3. SRI CONTROL Controle SRI 			

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214778

Form No: F-051A-R2



BESA Ing. Santangelo S.p.A.

INSPECTION CERTIFICATE

EN 10204 3.1.B

VALVOLE DI SICUREZZA

20131 Milano (Italy) - Via Donatello, 31
Tel. +39-02.70.63.47.20 r.a.
Fax +39-02.23.63.996
www.besa.it - E-mail: besa@besa.it

NO. 05-0223-2

dated 13.04.2005

REV.

dated

COMMESSA N. 05-223

dated 22.02.2005

SERIAL NUMBER 05-223-2

CUSTOMER: LUBISYSTEM S.R.L.

MILANO

ORDER NO. 47/05/0504A/B

dated 15.02.05

Safety valve according to European Directive 97/23/EC - category IV - fluids: group I and II at gas, vapour and liquid state

Notified bodies: I.S.P.E.S.L. n. 0100 (module B) - Pascal n. 1115 (module D)

Reference rules: ISPEL "Raccolta E" (1979) - EN ISO 4126 (2004)

Product description and specification

Ty 241-C With bonnet type closed Cap type H2 Weight: kg. 15
Coeff. of discharge Kd - L = 0,55 Derated coeff. of discharge Kdr- L. (Kd x 0,9) = 0,50
Discharge reduct factor Kb (due to the back pressure) = 1
Discharge reduct factor Kv (due to the viscosity) = /
Inlet side DN 40 Connection type Flanged EN 1092-1 PN 40 Design pressure Ps 37,9 barg
Outlet side DN 65 Connection type Flanged EN 1092-1 PN 16 Design pressure Ps 15,1 barg
Design temperature Ts from 10°C up to 200°C
orifice diameter do mm 37 discharge area cm2 10,75 lift mm 11,1
set pressure 0,8 MPa (8 barg) overpressure 10% blow down -10%
discharge capacity 1436 L/min (max. allowed back pressure 1,6 barg)
medium OIL ISO VG 46 AT 65°C ph. state LIQUID

body mat. 1.0619 (ASTM A216 WCB) bonnet mat. GS 450/10
spring mat. alloy steel spring no. BL 10549
seal mat. 1.4401 spring compression range 6,21 - 10 barg
disc mat. 1.4401 spindle mat. 1.4401
guide mat. 1.4401 balanced bellow material /
heating jacket mat. / design press. Ps / Design temperature Ts /
type of tightness Metallic

TESTS AND INSPECTIONS

Hydraulic test of the body acc. to "EN ISO 4126-1" with liquid at 60 barg (Ps amb. temp. x 1,5) : EXECUTED
Set pressure test acc. to ISPEL "Raccolta E" with air at 8 barg and atmospheric back pressure : EXECUTED
Seat-disk tightness test according to "API RP 527" with air at 7,2 barg : EXECUTED
Dimensional and visual inspection according to "BESA INSTRUCTION" : EXECUTED

TEST RESULT: SATISFACTORY

BESA Ing. Santangelo S.p.A.

The safety valve must be installed, used and kept in good condition in accordance with the instruction described on the Use and Maintenance Manual

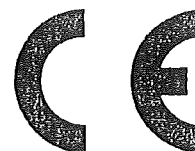
Warning : the maintenance of this safety valve must be carried out only by BESA S.p.A. authorized staff. BESA S.p.A. will be not responsible of non authorized maintenance operations.

BESA Ing. Santangelo S.p.A.

DICHIARAZIONE DI CONFORMITA' DECLARATION OF CONFORMITY

In accordo alla direttiva europea 97/23/CE

According to european directive 97/23/EC



Modello <i>Type</i>	Dimensioni nominali <i>Nominal sizes</i>	Esame CE del tipo <i>Type examination EC</i>		
		Organismo notificato <i>Notified body</i>	N° identificazione <i>Identification No.</i>	N° certificato <i>Certificate No.</i>
241 - 242	DN 20 ÷ DN 250	I.S.P.E.S.L.	0100	0073/02/CE
241F - 242F	DN 1" ÷ DN 2"	I.S.P.E.S.L.	0100	
241T - 242T	DN 20 ÷ DN 150	I.S.P.E.S.L.	0100	
241b - 242b	DN 20 ÷ DN 150	I.S.P.E.S.L.	0100	
241TF - 242TF	DN 1" ÷ DN 2"	I.S.P.E.S.L.	0100	
241bF - 242bF	DN 1" ÷ DN 2"	I.S.P.E.S.L.	0100	
261 - 262	DN 25 ÷ DN 100	I.S.P.E.S.L.	0100	0114/02/CE
251 - 252	DN 25 ÷ DN 100	I.S.P.E.S.L.	0100	0225/02/CE
131 - 132	DN 15 ÷ DN 150	I.S.P.E.S.L.	0100	0226/02/CE
139	DN 1/2" - DN 3/4"	I.S.P.E.S.L.	0100	0189/02/CE
249	DN 1/2" ÷ DN 1"	I.S.P.E.S.L.	0100	0171/02/CE
271	DN 25 - DN 50	I.S.P.E.S.L.	0100	1722/02/CE

Descrizione dell'attrezzatura a pressione

Description of the pressure equipment

Valvole di Sicurezza

Safety valves

Categoria IV

In accordo all'articolo 3 allegato II

According to article 3 annex II

Modulo <i>Module</i>	Procedure di valutazione della conformità <i>Conformity assessment procedures</i>	Numero certificato <i>Certificate number</i>
B	Esame CE del tipo <i>Type examination EC</i>	(Vedi tabella sopra) <i>(See above table)</i>
D	Garanzia qualità produzione <i>Production quality assurance</i>	003-97/23/CE-D

Procedure di valutazione della conformità in accordo all'articolo 10

Conformity assessment procedures according to article 10

PASCAL - N° identificazione 1115

Via Giardino, 4 - 20123 MILANO / ITALIA

Nome e indirizzo dell'organismo notificato che verifica le procedure di valutazione della conformità

Name and address of the notified body (monitoring a.m. conformity assessment procedures)

Con la presente, il costruttore dichiara che il progetto, la costruzione ed i collaudi delle suddette attrezzature a pressione, rispettano i requisiti della direttiva europea 97/23/CE

By this declaration, the signing manufacturer confirms that the design, the manufacturing and the inspection of this pressure equipment meet the requirements of the pressure equipment directive 97/23/CE.

15/06/04

data
date

Besa Ing. Santangelo S.p.A
Via Donatello, 31 - 20131 Milano
nominativo del costruttore
manufacturer name


Il legale rappresentante
Owner



VALVOLI A SFERA / BALL VALVES
ROBINETTES A BOULE / KUGELHAHNEN

AD-Merkblatt HP 0



Cert. n. 02-0155



ISO 9001 Quality System
Certificate of Registration No. 0057

20010 CASOREZZO (MI) - VIALE DEL LAVORO, 19
Cap. Soc. € 1.550.000,00 - Tel. 0290296208 r.a. Fax 0290296292
E-mail: alfa.valvole@alfavalvole.it - www.alfavalvole.it

DATA	31/03/2005	CERTIFICATO DI COLLAUDO	NR. 501369/2/0
Date		TEST CERTIFICATE	
		UNI EN 10204 3.1.B.	

CLIENTE	LUBISYSTEM SRL	VS. ORDINE	68/05/0504A-B	DATA	18/02/2005
Customer		Your order nr.		Date	
DESCRIZIONE	VALVOLA A SFERA	MATERIALE	A105	QUANTITA'	6
Description		Material		Total Q.ty	
TIPO	ALFA 10N DN 20 PN 40	MATRICOLE		DISEGNO	S4270
Type		Identification Nr.		Drawing	
AZIONAMENTO		SPECIFICA DI COLLAUDO		ISO 5208/PED	
Operator	HAND LEVER DEVICE	Test Specification		Procedure IOC 001 Rev. 01	
SIGLE					
Itc	Com.0504A				

ELENCO CERTIFICATI MATERIALI

Material Certificate List

NR DI COLATA	CORPO	CHIUSURA		
Heat nr.	Body	End		
CERTIFICATO 3.1.B. NR.	H3053	H4236		
Certificate 3.1.b. nr.	86590	8204		
MATERIALE	A105	A105		
Material				
QUANTITA NR.	6			
Total Q.ty Nr.				
PARTICOLARE	MATERIALE	NR. CERTIFICATO	EN 10204	NR DI COLATA
Valve Part	Material	Certificate nr.		Heat nr.

Alfa Valvole S.r.l. dichiara che i materiali dei componenti utilizzati sono conformi ai requisiti del vostro ordine, e ai disegni applicabili
Alfa valvole S.r.l. declares that the material used for the Componets are in conformity to order requirements and Drawing applicable

PROVE IN PRESSIONE	PROVA IDRAULICA CORPO	PROVA IDRAULICA SEDI	PROVA PNEUMATICA SEDI	PROVA PNEUMATICA CORPO
Pressure Test	Body Hydraulic Test	Seats Hydraulic Test	Seats Pneumatic Test	Body Pneumatic Test
PRESSIONE	60 bar	44 bar	6 bar	
Pressure				
FLUIDO	Acqua con inibitore di ruggine al 3%,esente da Cloro,Fosforo		Aria	Aria
Fluid	Water with 3% of rust inhibitor, free of Chlorine, Fosfate		Air	Air
STRUMENTAZIONE	TIPO	MANOMETRO	MATRICOLE	0+100 bar. 0+10 bar
Testing apparatus	Type	Pressure Gauge	Identification Nr.	3007 227.97
PROVE FUNZIONALI (A RICHIESTA)			MISURAZIONE COPPIA DI MANOVRA (A RICHIESTA)	
Functional Test (upon request)			Torque measurement (upon request)	
PRESSIONE VALVOLA	PRESSIONE ATTUATORE	PRESSIONE	COPPIA MISURATA	
Valve Pressure	Attuator Supply	Pressure	Torque measurement	
ESITO PROVE	In accordo alla norma di riferimento	ESAME VISIVO E DIMENSIONALE	Esito Favorevole	
Result	According to spec. reference	Visual and Dimensional Test	Positive Results	

FORNITORE
Supplier

ISPETTORE CLIENTE
Customer Inspector

ENTE DI COLLAUDO
Inspection Agency

ASSICURAZIONE QUALITA'



EN 10204 2.2 Certificated on Pressure Rating other than main Pressure-Bearing are maintained available for 10 years at Alfa Valvole Quality Assurance Dpt
Copy of valid Supplier ISO 9000 Quality Sistem Certificates are available at Alfa Valvole Quality Assurance Dpt



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ACCIAIERIE BERTOLI SAFAP SpA
Via Azzurro 10 - 40019 Sassuolo (MO) - Italy
Tel. 052 43111 - Fax 052 43111

CERTIFICATO DI COLLAUDO

Inspection Certificate - Certificat de reception - Abnahmeprüfzeugnis

N. 86590

Data 22/01/2003

COLATAN 70832

Steel - Acier - Stah

CURIENTE METALLURGICA LEGNANENSE SPA

Customer - Client - Kunde

ORDINE

FAX

Order - Commande - Bestellung

PROFILO TONDO

MM 100

STATO DI FORNITURA N. L.

Shape - Section - Profil

Delivery state - Etat de livraison - Lieferzustand

ACCIAIO ASTM A105

CAPITOLATO: ASTM A105-99 MOD.

LAM. 26395/009

Steel - Acier - Stah

COMPOSIZIONE CHIMICA % - CHEMICAL ANALYSIS % - COMPOSITION CHIMIQUE % - CHEMISCHE ZUSAMMENSETZUNG %

	C	Mn	Si	P	S	Cr	Ni	Mo	Al	Cu	Sn	V
Min		0.60	0.10									
Max	0.350	1.05	0.35	0.035	0.040	0.30	0.40	0.12	0.100	0.40	0.050	0.080
Coef.	0.197	0.95	0.28	0.011	0.002	0.06	0.11	0.03	0.028	0.20	0.018	0.002
	As	Sb	Ca	Nb	Al	Se	Co	Bi				
Min												
Max	0.0500	0.0008	0.0500	0.020	0.050	0.050	0.100	0.400				
Coef.	0.0023	0.0001	0.0016	0.001	0.008	0.061	0.007	0.001				
	N ₂	H ₂	O ₂									
Min												
Max												
Coef.												
CZ												
Min	0.450											
Max	0.394											



CERTIFICATO DI COLLAUDO

ACCIAIERIE BERTOLI SAFAU SpA
Via S. Maria 100 - 41012 Sassuolo (MO) - Italy
Tel. 059/80001 - Fax 059/80002

Inspection Certificate - Certificat de reception - Abnahmeprufzeugnis

N. 8214
Data 2/10/2003
COLATA N. 14712
Heat - Cuscep - Schmelze

UNIMET METALLURGICA LEGNANESE SPA

ORDINE FAX

Profilo TONDO

MM 55

Coda - Cuscep - Nodding

STATO DI FORNITURA N. 1.

Delivery state - Etat de livraison - Lieferzustand

MECCANO ASTM A105

CAPITOLATO: ASTM A105-01 MOD.

LAY. 29826/027

Doc. Acc. 541

COMPOSIZIONE CHIMICA % - CHEMICAL ANALYSIS % - COMPOSITION CHIMIQUE % - CHEMISCHE ZUSAMMENSETZUNG %

	C	Mn	P	S	Si	Ni	Mo	Al	Co	Sn	As
Val.	0.350	1.05	0.35	0.035	0.040	0.30	0.40	0.12	0.100	0.40	0.050
Lim.	0.312	0.96	0.25	0.016	0.004	0.15	0.13	0.03	0.027	0.28	0.010

	Fe	Al	Ca	Mg	As	Se	Co	Pb
Val.	0.0500	0.0008	0.0500	0.020	0.050	0.050	0.100	0.400
Lim.	0.0027	0.0001	0.0019	0.002	0.008	0.001	0.008	0.001

	Kopel	Grain	Grain
Val.			
Lim.			
Unit.			

CARATTERISTICHE TECNICHE - MECHANICAL PROPERTIES - CARACTERISTIQUES MECANIQUE - MECHANISCHE EIGENSCHAFTEN

II RIFERIMENTO	VALUTAMENTO TECNICO
D. PRODOTTO	NORMALIZZAZIONE
Val.	250
Lim.	485
Unit.	30.0
Val.	187
Lim.	163

PRIMA JOMINY - JOMINY TEST - ESSAI JOMINY - STERNABTRENKVERSUCH

Val.	Lim.	Unit.

INCLUSIONI NON METALLICHE

Non metal inclusion class. - Inclusionen nach metallog. - Inklusionen nach metallog. - Inklusionen

GRANIO AUTENTICO

Autentic grain. - Grain authentique. - Authentisches Korn.

7/8 ASTM E112

ALTRE PROVE - OTHER TESTS - AUTRES ESSAIS - SONSTIGE PRÜFUNGEN

HS = 125 SUL PRODOTTO

EN 10204/3.1B.

ESEGUITO CONTROLLO ULTRASUONI ED ANTIMESCOLANZA AL 100%.

CONTROLLO QUALITA' - QUALITY CONTROL - CONTRÔLE DE QUALITE' - QUALITA' HEAT Nr.

114236

MATERIALE CONFORME ALL'ORDINE
VERIF. ALBERTO VIDUSSI

COPIA CONFORME ALL'ORIGINALE
COPY COMPLYING WITH THE ORIGINAL



Vis. Alberto Vidussi

Certificate Nr.: **155/05** Date: 19/04/2005 ns. Rif.: C1 299/05

ID: 155

Client: **LUBISYSTEM S.R.L.**

P.O.Nr.: 43/05/0504A/B

via F.lli Zoia, 75
20153 MILANO

MI

Marking:

Item	Description	Q.ty	Pressure Test			
			Part	Fluid	Press.	Time
2	GATE 150# WCB/TRIM No.8 2" RF	1	Body	Water	30 Bar	2'min
			Seat	Water	21 Bar	1'min
			Seat	Air	6 Bar	1'min
6	GLOBE 150# WCB/TRIM No.8 2" RF	1	Body	Water	30 Bar	2'min
			Seat	Water	21 Bar	1'min
			Seat	Air	6 Bar	1'min

Item	Serial Nr.	Part	Heat CODE Nr.	Material	Yeld Point Mpa	Tensile Mpa	Elongation %	Contraction %
2	Z0412140	Body/Bonnet	2411	A216 WCB	280.000	542.000	27.000	42.000
2	Z0412140	Body/Bonnet	2439	A216 WCB	277.000	528.000	29.000	44.000
6	J10782	Body/Bonnet	2552	A216 WCB	275.000	524.000	29.000	41.000

Heat CODE Nr.	C %	Mn %	Si %	P %	S %	Cr %	Ni %	Mo %	Cu %	Hardness HB	Note/Annex
2411	0.190	0.750	0.430	0.018	0.019	0.090	0.080	0.040	0.050	150.000	
2439	0.190	0.770	0.400	0.018	0.019	0.080	0.040	0.030	0.040	148.000	
2552	0.190	0.720	0.420	0.019	0.016	0.080	0.060	0.050	0.020	142.000	

Note:

Testing, Visual and Dimensional Check: SATISFACTORY
After all above test effected, the products supplied are conforming to the contractual specification.

Work Insp.:

Q.C.Dept.:

Date:

Date:

19/04/05



Sede Legale: via Abitazione 9/3
40050 Monteveglio (BO)
Cap.Soc. Euro 51.480,00 i.v.
REA 271989 BO
Is.cr.Reg.Impr./C.F. 03170990372
Partita IVA 00800571200

**Test Certificate nr.
Certificato di Collaudo nr.**

0500304

15/03/2005

UNI EN 10204 3.1B (DIN 50049)

Customer - Cliente	Our Job - Ns. Comm.	Customer Order - Ordine Cliente	Date - Data
LUBISYSTEM SRL (100064)	C 5000571	39/05/0504	21/02/2005

The articles listed below have been manufactured and tested according to indicated standards.

Gli articoli sottoelencati sono stati costruiti e provati in accordo alle normative indicate.

List of tested articles - Elenco articoli testati				Performed tests - Test eseguiti		
Item	Type Tipo	Rating Classe	Q.ty Q.tà	Test cluster Gruppo di prove	Value Valore	Std Ref. Norme Rif.
0504533	GB015 DN080 PN6/A600	A300	1	Pressione Idraulica - Corpo Hydraulic Test Pressure Body	BAR	78 API598
				Pressione idraulica - Tenuta Hydraulic Test Pressure - Seat	BAR	58 API598
0504534	GB015 DN080 PN6/A600	A300	1	Pressione Idraulica - Corpo Hydraulic Test Pressure Body	BAR	78 API598
				Pressione idraulica - Tenuta Hydraulic Test Pressure - Seat	BAR	58 API598
0504535	GB015 DN080 PN6/A600	A300	1	Pressione Idraulica - Corpo Hydraulic Test Pressure Body	BAR	78 API598
				Pressione idraulica - Tenuta Hydraulic Test Pressure - Seat	BAR	58 API598
0504536	GB015 DN080 PN6/A600	A300	1	Pressione Idraulica - Corpo Hydraulic Test Pressure Body	BAR	78 API598
				Pressione idraulica - Tenuta Hydraulic Test Pressure - Seat	BAR	58 API598
0504537	GB015 DN080 PN6/A600	A300	1	Pressione Idraulica - Corpo Hydraulic Test Pressure Body	BAR	78 API598
				Pressione idraulica - Tenuta Hydraulic Test Pressure - Seat	BAR	58 API598
0504538	GB015 DN080 PN6/A600	A300	1	Pressione Idraulica - Corpo Hydraulic Test Pressure Body	BAR	78 API598
				Pressione idraulica - Tenuta Hydraulic Test Pressure - Seat	BAR	58 API598
0504539	GB015 DN080 PN6/A600	A300	1	Pressione Idraulica - Corpo Hydraulic Test Pressure Body	BAR	78 API598
				Pressione idraulica - Tenuta Hydraulic Test Pressure - Seat	BAR	58 API598

It is hereby certified that the above parts were subject to a test as indicated. No leakages or deformations were found.

Si certifica che le parti di cui sopra sono state sottoposte alle prove indicate. Non si sono riscontrate perdite o deformazioni.

Notes - Note:

Quality Assurance Dpt - Ufficio Controllo Qualità

2 Daniele Baldazzi

Firma digitale da Daniele Baldazzi
ID: 00000000000000000000000000000000
00000000000000000000000000000000
Data: 2008.03.15 11:10:16 +0100



Sede Legale: via Abitazione 9/3
40050 Monteveglio (BO)
Cap.Soc. Euro 51.480,00 i.v.
REA 271989 BO
Isr.Reg.Impr./C.F. 03170990372
Partita IVA 00800571200

Test Certificate nr.
Certificato di Collaudo nr.

0500304

15/03/2005

UNI EN 10204 3.1B (DIN 50049)

Customer - Cliente	Our Job - Ns. Comm.	Customer Order - Ordine Cliente	Date - Data
LUBISYSTEM SRL (100064)	C 5000571	39/05/0504	21/02/2005

The articles listed below have been manufactured and tested according to indicated standards.

Gli articoli sottoelencati sono stati costruiti e provati in accordo alle normative indicate.

List of tested articles - Elenco articoli testati				Performed tests - Test eseguiti		
Item	Type Tipo	Rating Classe	Q.ty Q.tà	Test cluster Gruppo di prove	Value Valore	Std Ref. Norme Rif.
0504540	GB015 DN080 PN6/A600	A300	1	Pressione Idraulica - Corpo Hidraulic Test Pressure Body	BAR	78 API598
				Pressione idraulica - Tenuta Hidraulic Test Pressure - Seat	BAR	58 API598
0504541	GB015 DN080 PN6/A600	A300	1	Pressione Idraulica - Corpo Hidraulic Test Pressure Body	BAR	78 API598
				Pressione idraulica - Tenuta Hidraulic Test Pressure - Seat	BAR	58 API598
0504542	GB015 DN080 PN6/A600	A300	1	Pressione Idraulica - Corpo Hidraulic Test Pressure Body	BAR	78 API598
				Pressione idraulica - Tenuta Hidraulic Test Pressure - Seat	BAR	58 API598

It is hereby certified that the above parts were subject to a test as indicated. No leakages or deformations were found.
Si certifica che le parti di cui sopra sono state sottoposte alle prove indicate. Non si sono riscontrate perdite o deformazioni.

Notes - Note:

Quality Assurance Dpt - Ufficio Controllo Qualità

?

Daniele Baldazzi

Firma digitale di
Daniele Baldazzi
Attestato con firma elettronica
certificata da un CA
Data: 2005.03.15 11:57:29
0102



Sede Legale: via Abitazione 9/3
40050 Monteveglio (BO)
Cap.Soc. Euro 51.480,00 i.v.
REA 271989 BO
Iscr.Reg.Impr./C.F. 03170990372
Partita IVA 00800571200

Test Certificate nr.
Certificato di Collaudo nr.

0500304

15/03/2005

UNI EN 10204 3.1B (DIN 50049)

Customer - Cliente	Our Job - Ns. Comm.	Customer Order - Ordine Cliente	Date - Data
LUBISYSTEM SRL (100064)	C 5000571	39/05/0504	21/02/2005

The values listed have been certified by sub-suppliers. True and correct copy of the original certificates kept in our files.
I valori indicati sono stati certificati dai subfornitori. Copia esatta dei certificati originali è conservata nei nostri archivi.

Item	Number Numero	Description Descrizione	Material Materiale	Int.Ref. Rif.Int.
0504533		CF CORPO DN080 GB15 A316 RGC0801300008AA	"ASTM A351 CF8M (AISI 316)	D0500278
0504534		CF CORPO DN080 GB15 A316 RGC0801300008AA	"ASTM A351 CF8M (AISI 316)	D0500278
0504535		CF CORPO DN080 GB15 A316 RGC0801300008AA	"ASTM A351 CF8M (AISI 316)	D0500278
0504536		CF CORPO DN080 GB15 A316 RGC0801300008AA	"ASTM A351 CF8M (AISI 316)	D0500295
0504537		CF CORPO DN080 GB15 A316 RGC0801300008AA	"ASTM A351 CF8M (AISI 316)	D0500298
0504538		CF CORPO DN080 GB15 A316 RGC0801300008AA	"ASTM A351 CF8M (AISI 316)	D0500267
0504539		CF CORPO DN080 GB15 A316 RGC0801300008AA	"ASTM A351 CF8M (AISI 316)	D0500284
0504540		CF CORPO DN080 GB15 A316 RGC0801300008AA	"ASTM A351 CF8M (AISI 316)	D0500273
0504541		CF CORPO DN080 GB15 A316 RGC0801300008AA	"ASTM A351 CF8M (AISI 316)	D0500268
0504542		CF CORPO DN080 GB15 A316 RGC0801300008AA	"ASTM A351 CF8M (AISI 316)	D0500297
Notes - Note:			Quality Assurance Dpt - Ufficio Controllo Qualità	
			 Daniele Baldazzi	



Sede Legale: via Abitazione 9/3
40050 Monteveglio (BO)
Cap.Soc. Euro 51.480,00 i.v.
REA 271989 BO
Iscr.Reg.Impr./C.F. 03170990372
Partita IVA 00800571200

Test Certificate nr.
Certificato di Collaudo nr.

0500304

15/03/2005

UNI EN 10204 3.1B (DIN 50049)

Customer - Cliente		Our Job - Ns. Comm.		Customer Order - Ordine Cliente		Date - Data
LUBISYSTEM SRL		(100064)		39/05/0504		21/02/2005
Int.Ref. Rif.Int.	Batch Lotto	Test cluster Gruppo di prove				Value Valore
D0500267	504J491	Analisi Chimica / Chemical An.	Carbonio / Carbon	%		0,076
			Manganese / Manganese	%		0,953
			Silicio / Silicon	%		0,807
			Zolfo / Sulfur	%		0,009
			Fosforo / Phosphorus	%		0,027
			Cromo / Chromium	%		18,307
			Nichel / Nickel	%		10,278
			Molibdeno / Molybdenum	%		2,197
		Prove Meccaniche / Mech. Test	Resistenza / Te Strenght	N/MM		508
			Snervamento / Yel.Strenght	N/MM		238
			Allungamento /Elongation	%		37
			Solubilizzazione	°C		1080
D0500268	504J497	Analisi Chimica / Chemical An.	Carbonio / Carbon	%		0,055
			Manganese / Manganese	%		1,230
			Silicio / Silicon	%		0,871
			Zolfo / Sulfur	%		0,004
			Fosforo / Phosphorus	%		0,028
			Cromo / Chromium	%		18,136
			Nichel / Nickel	%		10,109
			Molibdeno / Molybdenum	%		2,129
		Prove Meccaniche / Mech. Test	Resistenza / Te Strenght	N/MM		531
			Snervamento / Yel.Strenght	N/MM		253
			Allungamento /Elongation	%		48
			Solubilizzazione	°C		1080
D0500273	504J492	Analisi Chimica / Chemical An.	Carbonio / Carbon	%		0,071
			Manganese / Manganese	%		0,983
			Silicio / Silicon	%		0,686
			Zolfo / Sulfur	%		0,008
			Fosforo / Phosphorus	%		0,028
			Cromo / Chromium	%		18,106
			Nichel / Nickel	%		10,177
			Molibdeno / Molybdenum	%		2,140
		Prove Meccaniche / Mech. Test	Resistenza / Te Strenght	N/MM		529
			Snervamento / Yel.Strenght	N/MM		254
			Allungamento /Elongation	%		45
			Solubilizzazione	°C		1080
D0500278	504J493	Analisi Chimica / Chemical An.	Carbonio / Carbon	%		0,064
			Manganese / Manganese	%		1,114
			Silicio / Silicon	%		0,691
			Zolfo / Sulfur	%		0,007
			Fosforo / Phosphorus	%		0,026
			Cromo / Chromium	%		18,218
				%		

Notes - Note:

Quality Assurance Dpt - Ufficio Controllo Qualità

Daniele Baldazzi

Timbro di garanzia in Data
Baldazzi
10/02/2005
per il Cliente Baldazzi
Data: 2005.02.10 11:11:05 -0100



Sede Legale: via Abitazione 9/3
40050 Monteveglio (BO)
Cap.Soc. Euro 51.480,00 i.v.
REA 271989 BO
Iscr.Reg.Impr./C.F. 03170990372
Partita IVA 00800571200

Test Certificate nr.
Certificato di Collaudo nr.

0500304

15/03/2005

UNI EN 10204 3.1B (DIN 50049)

Customer - Cliente		Our Job - Ns. Comm.		Customer Order - Ordine Cliente		Date - Data
LUBISYSTEM SRL		C 5000571		39/05/0504		21/02/2005
Int.Ref. Rif.Int.	Batch Lotto	Test cluster Gruppo di prove				Value Valore
D0500278	504J493	Prove Meccaniche / Mech. Test		Nichel / Nickel	%	10,316
				Molibdeno / Molybdenum	%	2,259
				Resistenza / Te Strenght	N/MM	506
				Snervamento / Yel.Strenght	N/MM	235
				Allungamento /Elongation	%	39
		Tratt. Termico / Heat Treatm.		Solubilizzazione	°C	1080
				Carbonio / Carbon	%	0,060
				Manganese / Manganese	%	0,926
				Silicio / Silicon	%	0,811
				Zolfo / Sulfur	%	0,003
D0500284	504J472	Analisi Chimica / Chemical An.		Fosforo / Phosphorus	%	0,028
				Cromo / Chromium	%	18,267
				Nichel / Nickel	%	10,133
				Molibdeno / Molybdenum	%	2,293
				Resistenza / Te Strenght	N/MM	535
		Prove Meccaniche / Mech. Test		Snervamento / Yel.Strenght	N/MM	248
				Allungamento /Elongation	%	36
				Solubilizzazione	°C	1080
				Carbonio / Carbon	%	0,075
				Manganese / Manganese	%	1,007
D0500295	504J443	Analisi Chimica / Chemical An.		Silicio / Silicon	%	0,655
				Zolfo / Sulfur	%	0,007
				Fosforo / Phosphorus	%	0,028
				Cromo / Chromium	%	18,311
				Nichel / Nickel	%	9,866
		Prove Meccaniche / Mech. Test		Molibdeno / Molybdenum	%	2,378
				Resistenza / Te Strenght	N/MM	535
				Snervamento / Yel.Strenght	N/MM	267
				Allungamento /Elongation	%	48
				Solubilizzazione	°C	1080
D0500297	504J456	Analisi Chimica / Chemical An.		Carbonio / Carbon	%	0,070
				Manganese / Manganese	%	1,197
				Silicio / Silicon	%	0,880
				Zolfo / Sulfur	%	0,006
				Fosforo / Phosphorus	%	0,026
		Prove Meccaniche / Mech. Test		Cromo / Chromium	%	18,214
				Nichel / Nickel	%	10,365
				Molibdeno / Molybdenum	%	2,184
				Resistenza / Te Strenght	N/MM	547
				Snervamento / Yel.Strenght	N/MM	246
		Tratt. Termico / Heat Treatm.		Allungamento /Elongation	%	43
				Solubilizzazione	°C	1080

Notes - Note:

Quality Assurance Dpt - Ufficio Controllo Qualità

Daniele Baldazzi

Firma digitale di Daniele Baldazzi
ID: 00000000000000000000
Data: 2005.03.15 11:11:19 +0100



Sede Legale: via Abitazione 9/3
40050 Monteveglio (BO)
Cap.Soc. Euro 51.480,00 i.v.
REA 271989 BO
Iscr.Reg.Impr./C.F. 03170990372
Partita IVA 00800571200

Test Certificate nr.
Certificato di Collaudo nr.

0500304

15/03/2005

UNI EN 10204 3.1B (DIN 50049)

Customer - Cliente		Our Job - Ns. Comm.	Customer Order - Ordine Cliente	Date - Data	
LUBISYSTEM SRL		(100064)	C 5000571	39/05/0504	
Int.Ref. Rif.Int.	Batch Lotto	Test cluster Gruppo di prove		Value Valore	
D0500298	504J466	Analisi Chimica / Chemical An.	Carbonio / Carbon	%	0,050
			Manganese / Manganese	%	1,250
			Silicio / Silicon	%	0,834
			Zolfo / Sulfur	%	0,001
			Fosforo / Phosphorus	%	0,026
			Cromo / Chromium	%	18,270
			Nichel / Nickel	%	10,593
			Molibdeno / Molybdenum	%	2,197
			Prove Meccaniche / Mech. Test	Resistenza / Te Strenght	N/MM
		Snervamento / Yel.Strenght		N/MM	231
		Allungamento /Elongation		%	46
		Tratt. Termico / Heat Treatm.	Solubilizzazione	°C	1080

Notes - Note:	Quality Assurance Dpt - Ufficio Controllo Qualità
	? Daniele Baldazzi Firma per verifica Firma digitale di Daniele Baldazzi ID per Daniele Baldazzi Data: 2025.03.10 11:11:35 +0100

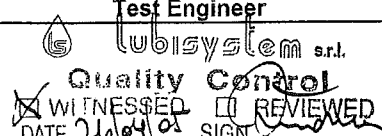


8

PIPING

- Liquid penetrant
- Hydrostatic test

 ESAME CON LIQUIDI PENETRANTI <i>Penetrant Test 100%</i>		N. 03816	
		S/N LI 1351-A	
		ORDINE N. 60/05/0504-A <i>Order n.</i>	
		COMM. N. 43/05 <i>Job n.</i>	
CLIENTE: LUBISYSTEM S.r.l. <i>Customer</i> Via F.lli Zoia, 75 - 20153 MILANO		DISEGNO 3158.0 <i>Dwg.</i>	
OGGETTO OIL PIPING - Kosair Plant <i>Object</i>		REVISIONE <i>Rev.</i>	
MATERIALE carbon steel <i>Material</i>		ESTENSIONE Su tutte le saldature <i>Exam coverage on all weldings</i>	
DESCRIZIONE DELL'ESAME <i>Description of the inspection</i>			
ESECUZIONE ASME V art. 6 ed. 2001 <i>Test method</i>		ACCETTABILITA' ASME VIII DIV. I app. 8 ed. 2001 <i>Accept. standards</i>	
PRODOTTI CHEMETALL <i>Products</i>		METODO Contrasto di colore <i>Method color contrast</i>	
METODO DI PULIZIA DELLA SUPERFICIE <i>Surface cleaning method</i>		Solvente <i>thinner</i>	
PENETRANTE ARDROX 907 PB <i>Penetrant</i>		APPLICATO CON Bomboletta spray <i>Applied with spray</i>	
TEMPO DI PENETRAZIONE 15 min. <i>Time of penetration</i>		RIMOZIONE PENETRANTE Acqua <i>Penetrant removal water</i>	
SOLVENTE <i>Thinner</i>		APPLICATO CON <i>Applied with</i>	
RIVELATORE ARDROX 9D6T <i>Developer</i>		APPLICATO CON Bomboletta spray <i>Applied with spray</i>	
TEMPO MIN. DI SVILUPPO 7 min. <i>Minimum time of developing</i>		TEMPO MAX DI SVILUPPO 30 min. <i>Maximum time of developing</i>	
RISULTATI DELL'ESAME NESSUNA ANOMALIA <i>Test Results No indication were found</i>			
ENTE ISPETTIVO <i>Inspection agency</i>	ISPETTORE CLIENTE <i>Client Inspector</i>	OPERATORE <i>Operator</i> LOCATI GIANCARLO II ^o LEVEL SMT - TC - 1A	DATA <i>Date</i> 26.04.05

		CERTIFICATO DI COLLAUDO IDROSTATICO Hydrostatic test certificate		C.300.10
CLIENTE/Customer MAN TURB AG Schweiz		IMPIANTO/Plant KOSAIR 2004		Fg/Sht. 1 di/of 1
DATA/Date 26/04/2005		COMM./Job 0504 A		
TITOLO/Title LUBE OIL SYSTEM INSERTION		ORDINE/Order N° 4000877		REF.DIS./Dwg. 2116/3158.0
PRESSATURA TUBAZIONI "MANDATA": Material C.Steel A106/Stainles Steel A304- dwg 3158.4 Piping deliveryside pressing PRESSIONE DI PROGETTO : Barg. 8 Design pressure LIQUIDO IMPIEGATO : ACQUA WATER + INHIBITOR Liquid used water PRESSIONE DI PROVA : Barg. 12 Test pressure TEMPO : MINUTI 15' Time minutes TEMPERATURA DI PROVA : °C 18 Test temperature ESITO: SATISFACTORY(no leakage noted) Result				
PRESSATURA TUBAZIONI "RITORNO E/O ASPIRAZIONE": Piping of suction/return pressing PRESSIONE DI PROGETTO : bar g. Design pressure LIQUIDO IMPIEGATO : ACQUA Liquid used water PRESSIONE DI PROVA : bar g. Test pressure TEMPO : MINUTI Time minutes TEMPERATURA DI PROVA : °C Test temperature ESITO Result				
NOTE: Remark				
RESPONSABILE COLLAUDO Test Engineer		ISPETTORE CLIENTE Customer Inspector		ISPETTORE CLIENTE Customer Inspector
				



9

OIL MIST FAN

-Test certificate

-CE Conformity

**Prüfbescheinigung nach EN 10204 (DIN 50049) /
Test certificate according to EN 10204 (DIN 50049)**

3.1b Abnahmeprüfzeugnis / Inspection Test Certificate

Hiermit erklären wir, dass die nachfolgend bezeichnete Maschine aufgrund ihrer Konzipierung und Bauart sowie in der von uns in Verkehr gebrachten Ausführung den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen der EG-Maschinenrichtlinie entspricht. Bei einer nicht mit uns abgestimmten Änderung der Maschine verliert diese Erklärung ihre Gültigkeit.

We herewith declare that the machinery designated below, on the basis of its design and construction in the form brought onto the market by us is in accordance with the relevant safety and health requirements of the EC Council Directive on Machinery.
This declaration becomes invalid if alterations are made to the machinery without prior consultations with us.

Bezeichnung / designation:	Öldunstabscheider / Oil mist separator
Maschinentyp / machinery type:	FF2-066.10000
Maschinen-Nr. / machinery no.:	05/4393
Kommission / our reference:	05/03953
Ihre Bestell-Nr. / Your order no.:	37/05/0504 A/B
Datum / Date:	13.05.2005

Druckprobe / Pressure Test: (Dichtigkeitsprüfung des Gehäuses und anderer relevanter Teile) / (Leakage test of the case and other	Prüfdruck / Test pressure:	1,5 bar	OK
	Prüfdauer / Test period:	10 min	OK
Lackschichtdicke / Paint layer thickness: (Messung der Lackschichtdicke) / (Measurement of layer thickness, on a random basis)	Lackdicke / Paint thickness:	410 µm	OK
Geräuschpegel / Noise level: (Messung des Geräuschpegels) / (Measurement of noise level)	Geräuschpegel / Noise level:	75-78 db (A)	OK
Volumenstrom / Volume flow: (Messung des Volumenstroms bei dem jeweiligen Betriebspunktes) / (Measurement of the volume flow at the relevant operating condition)	Volumenstrom / Volume flow: bei / at	60 m³/h	OK
	Differenzdruck/ diff. pressure:	-120 mbar	OK

Wir bestätigen, dass die Materialien für die genannten Maschinen gemäß EN 10204 den Anforderungen entsprechen.

We confirm that the materials used for the machinery mentioned above meet the requirements in accordance with EN 10204.

Die Materialien wurden geprüft und freigegeben

The materials have been tested and cleared for release.

FRANKE-Filter GmbH

Wiedhof 9
D - 31162 Bad Salzdetfurth
Fon: 0049 (0) 5064 - 904 - 0
Fax: 0049 (0) 5064 - 904 - 12

FRANKE-Filter GmbH
Wiedhof 9
D - 31162 Bad Salzdetfurth

Geschäftsführer:
Dipl.-Kaufm. M. Franke
Amtsgericht Hildesheim:
HRB 3109

Fon: +49 (0) 5064 - 904 - 0
Fax: +49 (0) 5064 - 904 - 18
Http: www.franke-filter.de
Mail: info@franke-filter.de

Bankverbindung:
VB Hildesheimer Börde eG
BLZ 259 915 28
Kto 80 990 000

EG-Konformitätserklärung / EC declaration of conformity
CE-Konformitätserklärung / CE declaration of conformity

im Sinne der EG-Maschinenrichtlinie 89/392/EWG, Anhang II A
according to the EC Directive on machinery 89/392/EEC appendix II A

erklären wir hiermit, dass die nachfolgend bezeichnete Maschine aufgrund ihrer Konzipierung und Bauart sowie in der von uns in Verkehr gebrachten Ausführung den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen der EG-Maschinenrichtlinie entspricht. Bei einer nicht mit uns abgestimmten Änderung der Maschine verliert diese Erklärung ihre Gültigkeit.

we herewith declare that the machinery designated below, on the basis of its design and construction in the form brought onto the market by us is in accordance with the relevant safety and health requirements of the EC Council Directive on Machinery. This declaration becomes invalid if alterations are made to the machinery without prior consultations with us.

Bezeichnung / designation:	Öldunstabscheider / Oil mist separator
Maschinentyp / machinery type:	FF2-066.10000
Maschinen-Nr. / machinery no.:	05/4393
Kommission / our reference:	05/03953
Ihre Bestell-Nr. / Your order no.:	37/05/0504 A/B
Datum / Date:	13.05.2005

EG-Richtlinien / EC directives:	EG-Maschinenrichtlinie (89/392/EWG i.d.F. 93/44/EWG) / EC directive on mach. (89/392/EEC amendment 93/44/EEC)
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Angewandte harmonisierte Europäische Normen, insbesondere / applied harmonised European standards, in particular:	EN 292-1, EN 292-2, EN 294, EN 60204-1 / EN 292-1, EN 292-2, EN 294, EN 60204-1
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Angewandte nationale Normen und techn. Spezifikationen, insbesondere / applied national standards and technical specifications, in particular:	VDMA 24167, VGB 5, VGB 5 DA / VDMA 24167, VGB 5, VGB 5 DA
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Unterschrift Hersteller / Manufacturer signature:

FRANKE-Filter GmbH
Wiedhof 9
D - 31162 Bad Salzdetfurth
Fon: 0049 (0) 5064 904-0
Fax: 0049 (0) 5064 904-16



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D - 31162 Bad Salzdetfurth

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Dipl.-Kaufm. M. Franke
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Fon: +49 (0) 5064 - 904 - 0
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10

OIL RESERVOIR COVER TOP & PIPING

- Painting



lubisystem

CERTIFICATO
DI VERNICIATURA
Painting certificate

C.300.18

Fg/Sht.

1 di/of 1

CLIENTE/Customer MAN TURBO AG Schhweiz	IMPIANTO/Plant KOSAIR 2004	DATA/Date 02/05/2005	COMM./Job 0504 A
TITOLO/Title: LUBE OIL SYSTEM INSERTION	ORDINE/Order N° 4000877	REF.DIS./Dwg. 2116/3158.0	

APPARECCHIATURA: PIPING IN C. STEEL + OIL RESERVOIR COVER TOP★

Equipment

PROCEDURA DI VERNICIATURA: ACCORDING TO MAN TURBO DOC. N° FW- 022E-FSG-0

Painting procedure

PIANO CONTROLLO QUALITA' ACCORDING TO LUBISYSTEM SPC.SP.200.07

Quality control plan

PREPARAZIONE SUPERFICE SABBIAURA: YES GRADO: SA 2,5

Surface preparation

Sand blasting:

Grade:

PROVE E CONTROLLI ESEGUITI

Tests and checks performed

APPLICAZIONE Application	TIPO DI VERNICE Paint type	SPESSORE A SECCO Dry film Thk microm	
		RICHIESTO Requested	RILEVATO Measured
FONDO Primer	EPOXY POLYAMIDE HEMPADUR 1530 - HEMPEL	80 μ	
INTERMEDIO Intermediate	EPOXY POLYAMIDE HEMPADUR 1530 - HEMPEL	80 μ	
FINITURA Finish	POLYURETHANE HEMPHATANE 5510 - RAL 7030 - HEMPEL	40 μ	
TOTALE Total checked		200 μ	>225 μ

CONTROLLO:

VISIVO DELL'ASPETTO DELLE SUPERFICI:

Visual check of the uniformity aspect of surfaces

ESITO DEL CONTROLLO: satisfactory

Check result

NOTE: ★ The internal part of the oil reservoir cover top have been painted with primer EPOXY POLYAMIDE

Remarks: HEMPADUR 1530 dry film thickness 80 micron

RESPONSABILE COLLAUDO

Test Engineer

ISPETTORE CLIENTE

Customer Inspector

ISPETTORE CLIENTE

Customer Inspector

lubisystem s.r.l.
Quality Control
WITNESSED ☒ REVIEWED ☐
DATE: 02/05/05 SIGN: [Signature]