COLFRAX Fluid Handling

ALLFUEL next generation - Webinar

Prepared by M. Hoffmann

2016/07/14

Typical applications

Iow and medium pressure pumps: AFI, AFI-F, AFI-T (+AFM, AFM-F, AFM-T) up to 40 bar

- Oil firing applications:

Transfer and circulation pumps Booster and burner operation pumps

– Marine:

Feeder and circulation pumps for fuels und lubricants

- Tank farm engineering: Tank drainage pumps
- Industrial technology:

Transfer pumps for all lubricating liquids



Customer structure

• OEMs

Burner system manufacturers like Oilon, Kangrim

Machine building companies like Kraus-Maffei

• Yards

ALLFUEL in almost all Marine engine room packages

• Owners

Repair/replacement and upgrade business (low-sulphur diesel applications)



Old design / FMEA results



Fluid Handling



















Pump housing / drain holes



Fluid Handling







Filter









Endurance test (~1000h) with heavy fuel oil (HFO) at 150°C

New heat and oil resistant adhesive film



Force measurement after endurance test.



Overview advantages



Fluid Handling



Description	W196(E) (standard)	W198 (E) (heavy- duty)	
Pump casing	EN-GJS-400-15 (nod. cast iron)	EN-GJS-400-15 (nod. cast iron)	
Casing insert	Aluminium	EN-GJL-250 tenifer (cast iron + treatment)	
Pump cover drive end	EN-GJS-400-15 (nod. cast iron)	EN-GJS-400-15 (nod. cast iron)	
Drive screw	16MnCrS5	16MnCrS5 PVD	
Idler screws	16MnCrS5	16MnCrS5 PVD	
Lower viscosity limit	1.8 cSt	1.0 cSt	



Overview advantages

New insert-unit fits into all Allfuel and SPF-pumps





Benefits

- Design improvements consisting of:
 - New real liner insert unit design: Easy to repair/replace
 - New pump housing: Better access to drain
 - Bearing: Only one type of bearing for all versions and sizes (other bearing for magnetic driven pumps)
 Better protection against wear due to external anti-friction bearing with sealing disks
 - Seal: Only one mechanical seal for all sizes
 - Well defined standard and heavy duty versions: Easy configuration during quotation-process
 - Redesign of pump foot: Easy dismounting of pump
- Improved possibilities in after market due to the reason that the insert is also suitable for SPF-housings (predecessor of Allfuel)

Impressions insert unit



Validation and safety tests during TG5

Test	Test result	
Comparison characteristic curve due to reduced balance piston	Minimal reduced volume, but friction power improved TEST SUCCESSFUL	
Comparison characteristic curve due to reduced length of insert	Minimal reduced volume TEST SUCCESSFUL	
NPSH test with sunk-in insert	Slightly reduced NPSH capabilities \rightarrow will be improved by new pump housing without stopper plug	
Machining capabilities to manufacture spindles' phases	TEST SUCCESSFUL, tolerances adjusted to meet both requirements for rev. hanging idler + production	
Machining capabilities to manufacture spindles in respect to sufficient miller run-out space	TEST SUCCESSFUL	
Endurance test of spindle design with reversed hanging idler in HFO 150°C	TEST SUCCESSFUL	
Assembly test	TEST SUCCESSFUL, approved by assembly and service	
Various running tests with good and bad lubricating media	TEST SUCCESSFUL	



Documentation

Technical Brochure, Manual, Pricelists, presentation, AM fact sheet

AFI vertikal

D/2016.03 - Ident-Nr. 488086



Leistungsdaten

Fördermenge ①	Q	bis	112 l/min	
Pumpeneintrittsdruck	ps	bis	6 bar	
Pumpenaustrittsdruck ②	pd	bis	40 bar	



ALLWEILER GmbH





© F = Gegenflansche: A = Adapterflansche



according CFH Global Multiplier Matrix

New Colfax Customer Price Groups	Definition	ALLFUEL magdrive	ALLFUEL mechanical seal
		26-100	26-110
		35-109	35-110
Tue day A	ia di Francastan		
	inci. Exporter -	<u> </u>	
	Inci. Exporter	<u> </u>	
		<u> </u>	
Enduser AA		<u> </u>	
Enduser AAA		<u> </u>	
OEM A / EPC A		<u> </u>	
OEM AAA / EPC AAA		<u> </u>	
Service & Repair A	Service Partner w/o contract	<u> </u>	
Service & Repair AA	Service Partner w/o contract	_	
Service & Repair AAA	Service Partner w. contract	_	
Distri B	See FIT assessment	<u> </u>	
Distri A		<u> </u>	
Distri AA		<u> </u>	
Distri AAA		<u> </u>	
Intercompany + CDC	All Colfax companies (Supply chain 1)		



Thank you!





www.colfaxcorp.com

COMMERCIAL MARINE DEFENSE OIL & GAS POWER & INDUSTRY TOTAL LUBRICATION MANAGEMENT