

**ENGINEERING & CONSTRUCTION d.o.o Beograd****MAHLE**
Industry**Proračun čvrstoće posude pod pritiskom FD – 4303**

Klijent :	NIS Naftna Industrija Srbije	N°	1428-FD-4303
Postrojenje :	Projekat modernizacije; S – 4300 MHC / DHT	Rev.	0
Lokacija :	Rafinerija nafte Pančevo, Srbija	Datum	17.02.2012.
		Strana	12 / 48

Oprema :	Fabrički br.:	Proizvođač :	Rekvizicija:
FD – 4303 Filter za protivpožarnu vodu	103415 - 30	MAHLE Industriefiltration GmbH	0386

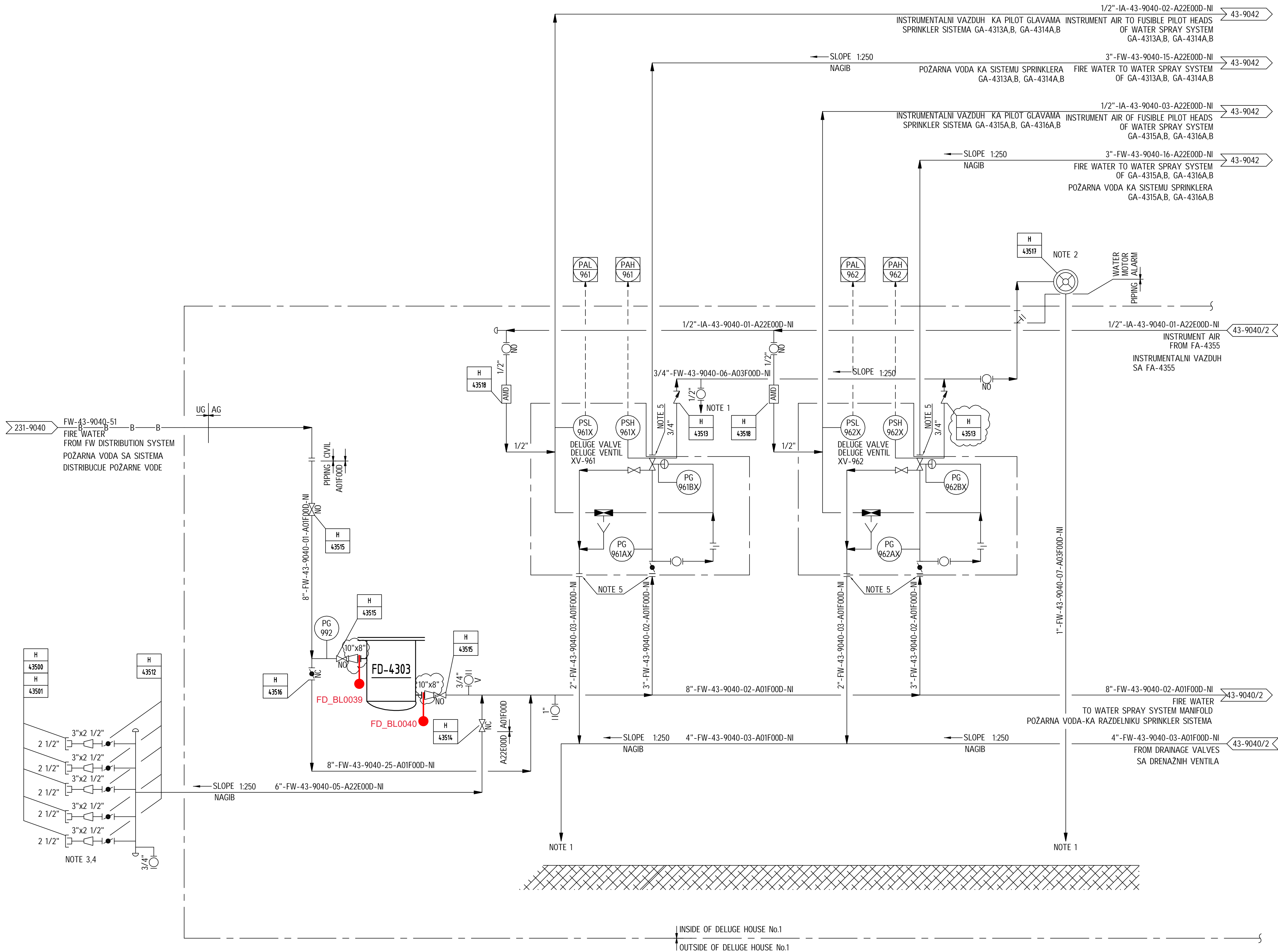
Naslov: **ISPRAVA FILTERA FD - 4303**

Opšti podaci	
Firma, odnosno naziv korisnika	NIS Rafinerija nafte Pančevo
Firma, odnosno naziv proizvođača	MAHLE Industriefiltration GmbH
Firma, odnosno naziv isporučioća	CB & I Lummus
Fabrički br. / godina izrade	103415-30 2011
Naziv i oznaka posude	Filter FD - 4303
Vrsta posude	Vertikalna stabilna posuda pod pritiskom
Klasa posude	IV (četvrta)
Nazivna veličina [m ³]	0.38
Oblik i konstruktivne mere prema crtežu br.	BE15A510A150001

Tehnički podaci		
Naziv radnog prostora		Omotač
Najveći dozvoljeni radni pritisak [barg]		16
Proračunski pritisak elemenata posude prema SRPS M.E2.250 [barg]		16
Ispitni pritisak (barg)	tečnosti	23
	gasa	-
Ispitna materija		Voda
Temperatura ispitne materije [°C]		20
Najveća (i najmanja) radna temperatura zida [°C]		60 (-28)
Radni medijum		Voda
Karakteristika radnog medijuma (otrovnost, zapaljivost, eksplozivnost)		Neutralna
Zapremibna [m³]		0.38
Masa prazne posude [kg]		510
Najveća masa punjenja [kg]		925

FD-4303

FIRE WATER FILTER FILTER POŽARNE VODE
DESIGN PRESS: 16.0 barg PROJEKTNÍ PRITISAK: 16.0 barg
DESIGN TEMP: 60 °C PROJEKTNÁ TEMPERATURA: 60 °C
MATERIAL: CS MATERIAL: UGLJENIENÍ EELIK



GENERAL NOTES OPŠTE NAPOMENE

- FOR LEGEND, TYPICAL ARRANGEMENTS AND GENERAL NOTES, REFERENCE IS MADE TO DRAWINGS 02163-50-00-0001+0006.
- ALL TAG NUMBERS FOR INSTRUMENTS WILL BE PRECEDED BY UNIT NUMBER 43 UNLESS OTHERWISE SPECIFIED.
- REVISION CLOUDS INDICATE CHANGES COMPARED TO PREVIOUS ISSUE.
- LEGENDE, TIPSKI DETALJI I OPŠTE NAPOMENE, SU DATI NA CRTEŽU 02163-50-00-0001+0006.
- SVE OZNAKE INSTRUMENTATA ĆE POEIJNATI BROJEM JEDINICE 43, SEM AKO NJE NAZNAEENO DRUGAEJE

NOTES NAPOMENE

1. DRAINAGE WATER SHALL BE COLLECTED TO THE DRAINAGE SYSTEM OF DELUGE HOUSE.
2. WATER MOTOR ALARM SHALL BE LOCATED OUTDOOR AT DELUGE HOUSE WALL AND SHALL BE VISIBLE FROM ACCESS ROAD.
3. FIRE BRIGADE HOSE COUPLINGS 2 1/2" SHALL BE LOCATED AT ACCESIBLE PLACE IN FRONT OF DELUGE HOUSE.
4. FIRE BRIGADE HOSE COUPLINGS 2 1/2" SHALL BE EQUIPPED WITH CAP AND CHAIN.
5. GROOVED CONNECTION
1. DRENAŽNA VODA ĆE BITI SAKUPLJENA U DRENAŽNOM SISTEMU PUMPNE STANICE
2. ALARM PUMPE ĆE BITI SMEŠTEN VAN PUMPNE STANICE NA NJENOM ZIDU I PIKE VIDLJIV SA PRISTUPNOG PUTA
3. PRUKLJUEAK VATROGASNOG CREVA PREENIKA 2 1/2" ĆE BITI SMEŠTAN NA PRISTUPAENOM MESTUISPRED PUMPNE STANICE.
4. PRUKLJUEAK VATROGASNOG CREVA PREENIKA 2 1/2" ĆE BITI OPREMLJEN EEPOM NA LANCU

HOLDS

1. DELETED
2. DELETED

EQUIPMENT LIST/LISTA OPREME:

FD-4303

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MODERNIZACIJA RAFINERIJE NAFTE PANČEVO



TEHNOLOŠKA ŠEMA
PROTIVPOŽARNOG SISTEMA
STANICA POŽARNE VODE br.1

NIS Petroleum Industry of Serbia

PANČEVO, SERBIA

<div>delta inženjering</div>			--					POTPIS SIGNATURE	
			ODGOVORNI PROJEKTANT RESPONSIBLE DESIGNER						
5	15.04.11	AFD	PAK	MIR	PAK	UHM	IKU		
4	14.01.11	AFD REVISED	PAK	MIR	PAK	UHM	IKU		
3	15.11.10	AFD REVISED	PAK	MIR	PAK	UHM	IKU		
0	14.01.10	AFD	HOJ	UHM	PAK	UHM			
REV	DATUM DATE	OPIS DESCRIPTION	CRT DWN	ISS ORG. ENG.	OVERB CHKD	GLAV. ENG LEAD ENG	PROJ. ENG PLAN	INVEST. CLIENT	ARRIVA ARCH

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	NIS Petroleum Industry of Serbia
	CB&I Lummus s.r.o.

PANCEVO OIL REFINERY MODERNIZATION PROJECT
PIPING AND INSTRUMENT DIAGRAM
FIRE FIGHTING SYSTEM
DELUGE HOUSE NO. 1

NIS Petroleum Industry of Serbia

PANČEVO, SERBIA

RAZPHERA: SCALE: BR CRT: DWG. No.: 02163-50-43-9040-5 LIST: SHEET: 1/4

PARTS LIST Body

Item	Description	Qty.	Base size	Drawing	Material-No./ Eurocode	Code	Certificate
1.1	Jacket	1	BLA/250/889	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
1.2	Flange	1	C600x610 DN2633	without	10460 / C22.8	WATV 350/3	WATV/3.1
1.3	Bottom	1	VA 610x8 DN2811	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
1.4	Bottom ring	1	BLA/250/889	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
1.5	Flange	1	AKC 10" 501bs	without	10460 / C22.8	WATV 350/3	WATV/3.1
1.6	Connection	1	BLA/250/889	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
1.7	Welded nipple	1	61" DN 86103	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
1.8	Welded nipple	2	61" DN 2286	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
1.9	Insulator	1	BLA/250/889	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
1.10	Base plate	1	BLA/250/889	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
1.11	Angle	3	70x70x7x200	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
1.12	Plate	3	BLA/250/889	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
1.13	Plate	3	BLA/250/889	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
1.14	Ring	2	BLA/250/889	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
1.15	Filter element	1	SAF5008-Finness #3mm	without	10425 / F265GH	EN 10028-2	AD-W1/3.1

PARTS LIST Cover

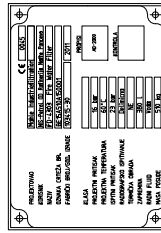
Item	Description	Qty.	Base size	Drawing	Material-No./ Eurocode	Code	Certificate
2.1	Blind flange	1	B600 PN16 DN257	without	10460 / C22.8	WATV 350/3	WATV/3.1
2.2	Lip	2	10x10x10	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
2.3	Lip	2	10x10x10	without	10425 / F265GH	EN 10028-2	AD-W1/3.1

PARTS LIST Attached parts

Item	Description	Qty.	Base size	Drawing	Material-No./ Eurocode	Code	Certificate
3	Hexagon bolt	20	M16x70 DN933	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
4	Hexagon nut	20	M16 DN933	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
5	Spiral board gasket	1	#725/420x2	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
6.1	Diff.pressure indicator	1	N100 Typ 5.01	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
7	Welded nipple	1	72x72x7x200	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
8	ATC sealant	1	60x200x18	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
9	Drain (ball cock)	2	56x10x58	without	10425 / F265GH	EN 10028-2	AD-W1/3.1

Spare part list

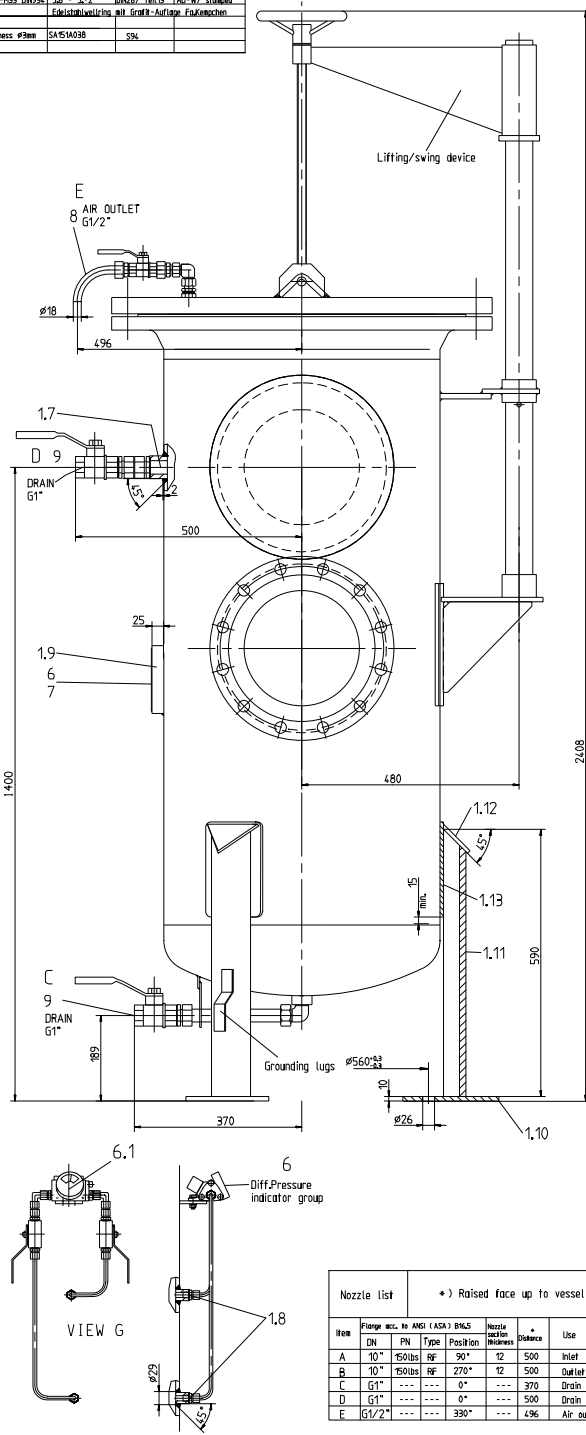
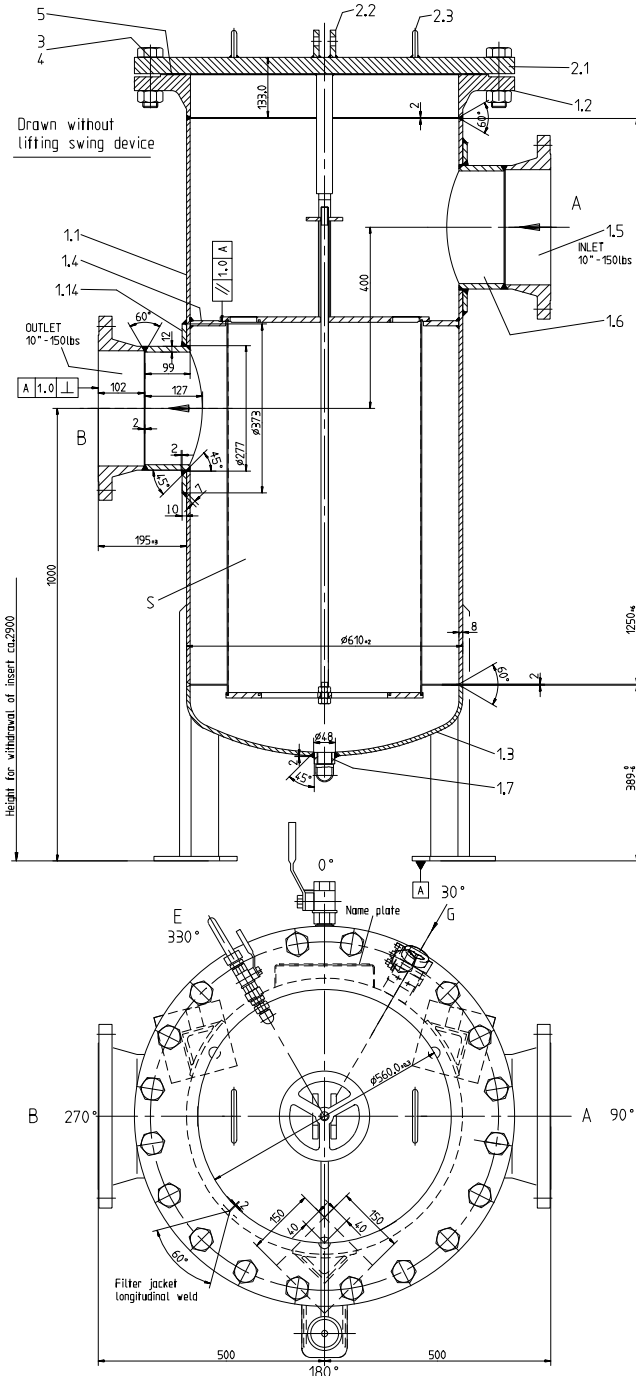
Item	Description	Qty.	Base size	Drawing	Material-No./ Eurocode	Code	Certificate
3-4	Hexagon bolt-nut	2-2	M16x70 DN933-M16 DN933	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
5	Spiral board gasket	1	#725/420x2	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
6	Filter element	1	SAF5008-Finness #3mm	without	10425 / F265GH	EN 10028-2	AD-W1/3.1



PERMISS. SERVICE OVERPRESSURE 16 BAR
 ADMISS. SERVICE TEMPERATURE 0-60 °C
 Medium Fire water
 Flow rate min.: 74730 - normal: 726600 - max.: 750000 kg/h
 Inlet pressure min.: 13.0 - normal: 13.0 - max.: 14.0 bar
 Inlet temperature min.: 5.0 - max.: 10.0 °C
 MELTING FACTOR 0.85
 Surface specification RA1.9007
 Corrosion allowance 1.5 mm
 Material see list of parts
 NON DESTRUCTIVE TESTING 22IN LONGIT SEAM CIRCULAR SEAM Joints
 Weight empty: 510 - Operating 925 - Test 925 kg

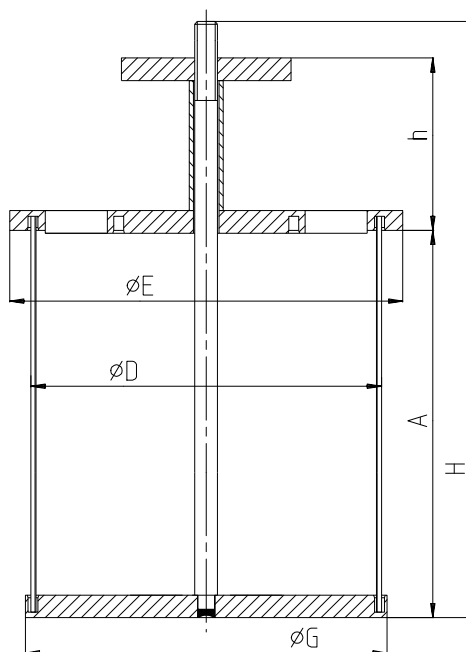
Item	Description	Qty.	Base size	Drawing	Material-No./ Eurocode	Code	Certificate
1	Filter element	1	SAF5008-Finness #3mm	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
2	Blind flange	1	B600 PN16 DN257	without	10460 / C22.8	WATV 350/3	WATV/3.1
3	Lip	2	10x10x10	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
4	Lip	2	10x10x10	without	10425 / F265GH	EN 10028-2	AD-W1/3.1

Item	Description	Qty.	Base size	Drawing	Material-No./ Eurocode	Code	Certificate
1	Filter element	1	SAF5008-Finness #3mm	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
2	Blind flange	1	B600 PN16 DN257	without	10460 / C22.8	WATV 350/3	WATV/3.1
3	Lip	2	10x10x10	without	10425 / F265GH	EN 10028-2	AD-W1/3.1
4	Lip	2	10x10x10	without	10425 / F265GH	EN 10028-2	AD-W1/3.1



Item	Flange	DN	PN	Type	Position	Height	Use
A	10"	650lbs	RF	90°	12	500	Inlet
B	10"	650lbs	RF	270°	12	500	Outlet
C	G1"	---	---	0°	---	370	Drain
D	G1"	---	---	0°	---	500	Drain
E	G1/2"	---	---	330°	---	496	Air outlet

EINFACH-EINSÄTZE
SINGLE INSERTS



DN	EINFACH SINGLE	DOPPEL DOUBLE	øD	ød	øE	øG	A	h	H	EINFACH SINGLE		DOPPEL DOUBLE	
	Art. Nr.									cm2	kg	cm2	kg
250	SA141	SA142	375	250	405	380	740	205	968	8170	26.0	14470	26.5
300	SA151	SA152	430	291	462	436	832	230	1085	11050	32.5	18470	33.0

CB&I Lummus			CB&I	
Project name Client Name	Project number: 02163		Engineering Review Status	
Lummus Document No.:/Rev:	00024	0		
Requisition Number:	0386		Signed: BAJ	Date: 07.04.11
Lummus Document Code(s):	D01-E03		<input type="checkbox"/> R	Reviewed-No Comments
			<input checked="" type="checkbox"/> RN-1	Revised-With Administrative Comments only
			<input type="checkbox"/> RN-2	Reviewed-With Comments
			<input type="checkbox"/> RJ	Rejected
			<input type="checkbox"/> FI	For Information only
			<input type="checkbox"/> S	Superseded (by document.....)
Equipment Tag.Number(s):	ALL		<input type="checkbox"/> FD	Final

Änderung vorbehalten / Subject to change