

۱- سازنده موظف است قبل از شروع ساخت، جلسه PIM را با حضور نمایندگان کارفرما برگزار کرده و کلیه نقشه‌های ساخت و جزئیات اجرایی را مطابق با نقشه اعلام شده از سوی کارفرما، تهیه و به تأیید کارفرما برساند.

۲- استانداردهای لازم اجرا :

ASME B31.3, ASME BPVC , ASTM, API , ASME SEC VIII (2019)

۳- مدارک ذیل باید قبل از آغاز فرآیند ساخت، تهیه شده و به تأیید کارفرما برسد:

- 2.1. W.P.S & P.Q.R & WQT
- 2.2. Weld map
- 2.3. N.D.T map
- 2.4. N.D.T Procedure
- 2.5. QC PLAN
- 2.6. Packing And Shipment Procedure
- 2.7. Pickling & Passivation Procedure

۴- ارائه گواهینامه معتبر برای کلیه اقلام و اجناس مصرف شده در ساخت قطعات موضوع قرارداد الزامی است و این اقلام باید قبل از استفاده به تأیید پالایشگاه برسند.

۵- کارفرما این حق را دارد به تشخیص اداره‌ی بازرسی فنی در صورت نیاز به هزینه‌ی خود، از محصولات ورودی به سایت پالایشگاه نمونه‌هایی به صورت تصادفی انتخاب و به آزمایشگاه‌های معتبر (داخلی و خارجی) و مورد تأیید اداره استاندارد (آزمایشگاه همکار استاندارد که مورد تأیید اداره بازرسی فنی است) جهت انجام تست‌های خواص مکانیکی، فیزیکی و شیمیایی روی آن‌ها ارسال نماید. بدیهی است که نتایج باید مطابق با برگه‌های مشخصات فنی ارائه شده باشد. باعنایت به زمانبر بودن نتایج آزمایشگاه (داخلی و خارجی) و اهمیت این نتایج در عملکرد مواد دیرگداز، اگر نتایج به دست آمده خارج از بازه اعلام شده از سوی پیمانکار باشد، چه درحین کار و چه پس از اتمام کار، کارفرما مختار است با توجه به نظر اداره‌ی بازرسی فنی خود، در این خصوص هر گونه تصمیمی (مانند ضبط ضمانتنامه، پیگیری از مراجع قانونی و ...) را اتخاذ نماید.

۶- با توجه به اینکه عملیات ساخت در کارگاه شرکت سازنده انجام می‌شود، سازنده موظف است در زمان‌هایی که بازرسان و یا نمایندگان کارفرما در کارگاه شرکت سازنده حضور دارند تسهیلات و امکانات و مدارک لازم را در اختیار آنها بگذارد.

۷- فروشنده موظف است پس از پایان فرآیند ساخت، مدارک ذیل را در قالب کتابچه فنی شامل یک نسخه چاپی و یک نسخه الکترونیکی به کارفرما تحویل دهد:

- 7.1 Drawings Final As Built
- 7.2 WPS & P.Q.R
- 7.3 Material Test Certificate (chemical Analysis, Mechanical Properties, Impact Test)
- 7.4 N.D.T Reports
- 7.5 HYDROTEST reports

P/F "AMAFILTER" AUTOMATIC BACKFLUSHING RAW OIL FILTER
DRWG. NO. 08A192/1/9762, REV. 4
P/F "AMAFILTER" AUTOMATIC BACKFLUSHING RAW OIL FILTER
DRWG. NO. 08A192/1/9762, REV. 4
REF. AMAFILTER GROUP ENERGY
LOCATION ARAK REFINERY
TAG NO. F-1401
SAR-058
FILTER ELEMENT CASSETTE ASSY., MAT. ST.ST. 316L

۸- کاملاً مشابه فیلترهای موجود سازنده اصلی و براساس دیتا شیت فیلترها (پیوست) و مطابق با نقشه ها و مدارک سازنده اصلی ساخته شود (amafiltergroup)

۹- بسته بندی کالا باید به گونه ای باشد که کالا هم در حین حمل ، تخلیه و انبارش آسیب نبیند.

DATA SHEET:

   SAZEH CONSULTANTS شرکت طراحی و ساختمان نفت 中国石化工程建设公司 OIL DESIGN & CONSTRUCTION CO. SINOPEC ENGINEERING INCORPORATION	Shazand Arak Refinery Expansion and Upgrading Project	 NIOEC
	Process Data Sheet For F-1401 (Feed Filter Package) Reduced Crude Desulfurization Unit	
Originator Project No. : I9801-01DD	Document No. : DS-49-14-002-2	
		Page 1 of 3

Process Data Sheet For F-1401 (Feed Filter Package) Reduced Crude Desulfurization Unit

02	Issued for Approval (FINAL)	03-Sep-2014	Wang He	Liu Kaixiang	Zhong Jingwei	
01	Issued for Approval	04-Jun-2007	Wang He	Zhang Li	Zhong Jingwei	A
00	Issued for Approval	26-Mar-2007	Wang He	Liu Kaixiang	Zhong Jingwei	C
Rev.	Description	Date	Prepared	Checked	Approved	AC
		16800PE-DS11-0002	POD: XX	POI: XXX	Status: XXX	

 SAZEH CONSULTANTS Engineers & Constructors	 شركت طراحی و ساختمان نفت OIL DESIGN & CONSTRUCTION CO.	 中国石化工程建设公司 SINOPEC ENGINEERING INCORPORATION	Shazand Arak Refinery Expansion and Upgrading Project		 NIOEC
			Process Data Sheet For F-1401 (Feed Filter Package) Reduced Crude Desulfurization Unit		
Originator Project No. : 19801-01DD			Project No : 2260		
Document No. : DS-49-14-002-2			Page 2 of 3		

Name: Feed Filter Package

Item Number: F-1401

Furnish a continuous raw oil filtering system with automatic backwashing facilities for the conditions specified below:

Conditions of Service:

Filtered Fluid		Atmospheric/Vacuum Residue	
Absolute Density		997 kg/m ³	
Temperature		235 °C	
Flowing Volume		530.1 m ³ /hr	
Flowing Specific Gravity		0.863	
Viscosity		12.17 cP	
Sulfur Content		4.03 wt%	
Operating Pressure (Normal Outlet)	Clean	10 bara	
	Dirty	9 bara	
Allowable Pressure Drop:	Clean, max	0.34 bar	
	Dirty, max	1.38 bar	
Particle size to be retained, microns (nominal)		25	
Backwash Fluid:		Product Fractionator Bottoms	
		SOR	EOR
Absolute Density		960 kg/m ³	948 kg/m ³
Temperature		235 °C	235 °C
Maximum Flowing		45 m ³ /hr*	45 m ³ /hr*
Flowing Specific Gravity		0.833	0.816
Viscosity		4.56 cP	2.28 cP
Pressure at inlet (minimum normal)		17.3 bara	19.1 bara
Maximum allowable backwash pressure drop		3.0 bar	3.0 bar

* Flow rate shown is maximum available.

Design Conditions:

Temperature	265 °C
Pressure	36.5 barg
Corrosion allowance, mm	Lining
Metallurgy	KCS lined with 3 mm TP 316L

	Shazand Arak Refinery Expansion and Upgrading Project Process Data Sheet For F-1401 (Feed Filter Package) Reduced Crude Desulfurization Unit	
Originator Project No. : I9801-01DD		Project No : 2260
Document No. : DS-49-14-002-2	Page 3 of 3	

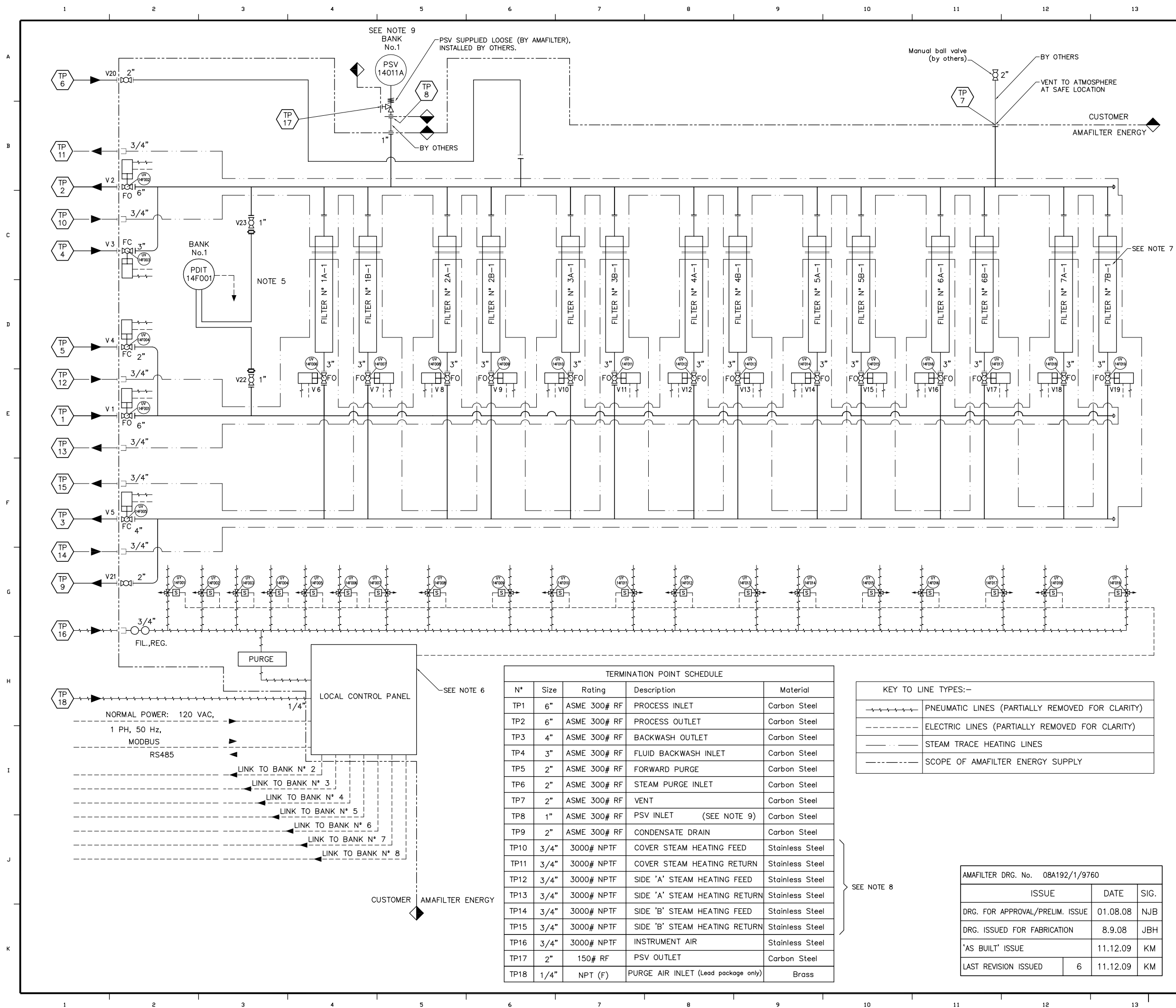
Operating Conditions:

1. Fresh feed is filtered through parallel elements or banks of filter elements connected to inlet and outlet headers.
2. Backwash sequence will be initiated by a signal from a differential pressure switch (by purchaser).
3. Backwash oil, desulfurized residue bottom product, flows from the backwash source header through the filter elements in the direction of normal flow to the outlet header, flushing the filter elements of feed.
4. Backwash oil then flows from the backwash source header backwards through the filter elements, carrying accumulated solids to the backwash drain header.
5. Fresh Feed is re-established to the cleaned elements through the normal, forward, flow pattern. The backwash sequence is repeated on each element until all elements have been backwashed.

Filtering Equipment

Filtering equipment shall include the following, but not limits:

1. Parallel elements or banks of filter elements connected to inlet and outlet headers with a backwash source and drain header. The filter shall be constructed such that one filter or set of filters can be taken out of service and the filter will still function properly.
2. Each filter bank or set of filters shall have an automatic explosion proof sequencing panel which incorporates a program timer and solenoid valves. Panels will be interconnected for sequential operation. Actuation shall be by differential pressure switch supplied by purchaser. Automation of the backwashing sequence can be either pneumatic or electronic.
3. Filter area shall be determined based on a maximum flux rate of $2.45 \text{ m}^3/\text{hr}/\text{m}^2$.
4. Filter elements shall be constructed using slotted screens which are made by helical winding of a continuous triangular-shaped wire around a series of vertical support stringers. The elements shall be rated for no less than the maximum pressure differential pressure indicated. Wire mesh also acceptable if the manufacturer can show successful experience with substantially the same fluid as that being filtered.
5. Piping, flanges, fitting and valves shall be in accordance with Project Specification SP-2260-50-004 REV.0. Vendor shall provide relief protection for external fire. API520/521/526 standard is the minimum requirement for external fire relief protection.
6. Utilities available: see Basic Engineering Design Data DS-90-00-001 Rev. 3.
7. The vendor shall provide the steam heat tracing coil of each filter elements and the support ring (if any) for hot insulation. The minimum temperature for the steam heat tracing is 52°C . The low pressure steam is used for the steam tracing.



GENERAL NOTES

- INSULATION BY OTHERS
- VALVES SUPPLIED IN PRIMER ONLY FOR SITE COMPLETION BY OTHERS.
- CARBON STEEL PIPE HEADERS SUPPLIED NOT PAINTED.
- PURGED PLC PANEL LOCATED ON BANK N° 1. BANK N°S 2-8 HAVE INDIVIDUAL SKID EDGE JUNCTION BOXES.
- DPT TO HAVE BALL VALVE ISOLATION C/W DIAPHRAGM SEAL (1/2"NPT) & CAPILLARIES.
- P&ID SHOWN IS FOR LEAD PACKAGE ONLY, 8 OFF PACKAGES ARE REQUIRED BUT CONTROL PANEL IS REQUIRED ON LEAD PACKAGE ONLY.
- * AFTER FILTER ITEM NUMBER DENOTES THE PACKAGE NUMBER (-1 TO -8)
- 3000# NPTF IS A 3000psi RATED NPT FEMALE CONNECTOR.
- TP8 IS PIPING OUTLET (PSV INLET), PSV OUTLET IS 2" 150# RF.

REFERENCE DRAWINGS	DWG No.
General Arr. Drawing (Slave) Skid Assembly	08A192/1/9761-01
General Arr. Drawing (Lead) Skid Assembly	08A192/1/9761-02

KEY PLAN

06	11.12.09	'AS BUILT' ISSUE	KM	JBH	SR	X
05	03.08.09	SEAL RINGS ADDED	RTH	JBH	SR	X
04	29.04.09	GENERAL UPDATE	RTH	JBH	SR	X
03	16.12.08	NOTE 9 ADDED TO TP 8.	JBH	NJB	SR	X
02	24.10.08	TAG NUMBERS ADDED, TP8 WAS 2"	JBH	NJB	SR	X
01	8.9.08	ISSUED FOR FABRICATION	JBH	NJB	SR	X
00	1.8.08	FOR APPROVAL	KM	NJB	SR	X
REV.	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D	AC

NATIONAL IRANIAN OIL REFINING & DISTRIBUTION COMPANY
NATIONAL IRANIAN OIL
ENGINEERING & CONSTRUCTION CO.
SHAZAND ARAK REFINERY EXPANSION
AND UPGRADE PROJECT

CONTRACTOR: SAZEH CONSULTANTS, Oil Design & Construction Co., SEI ENGINEERING CONSULTANTS

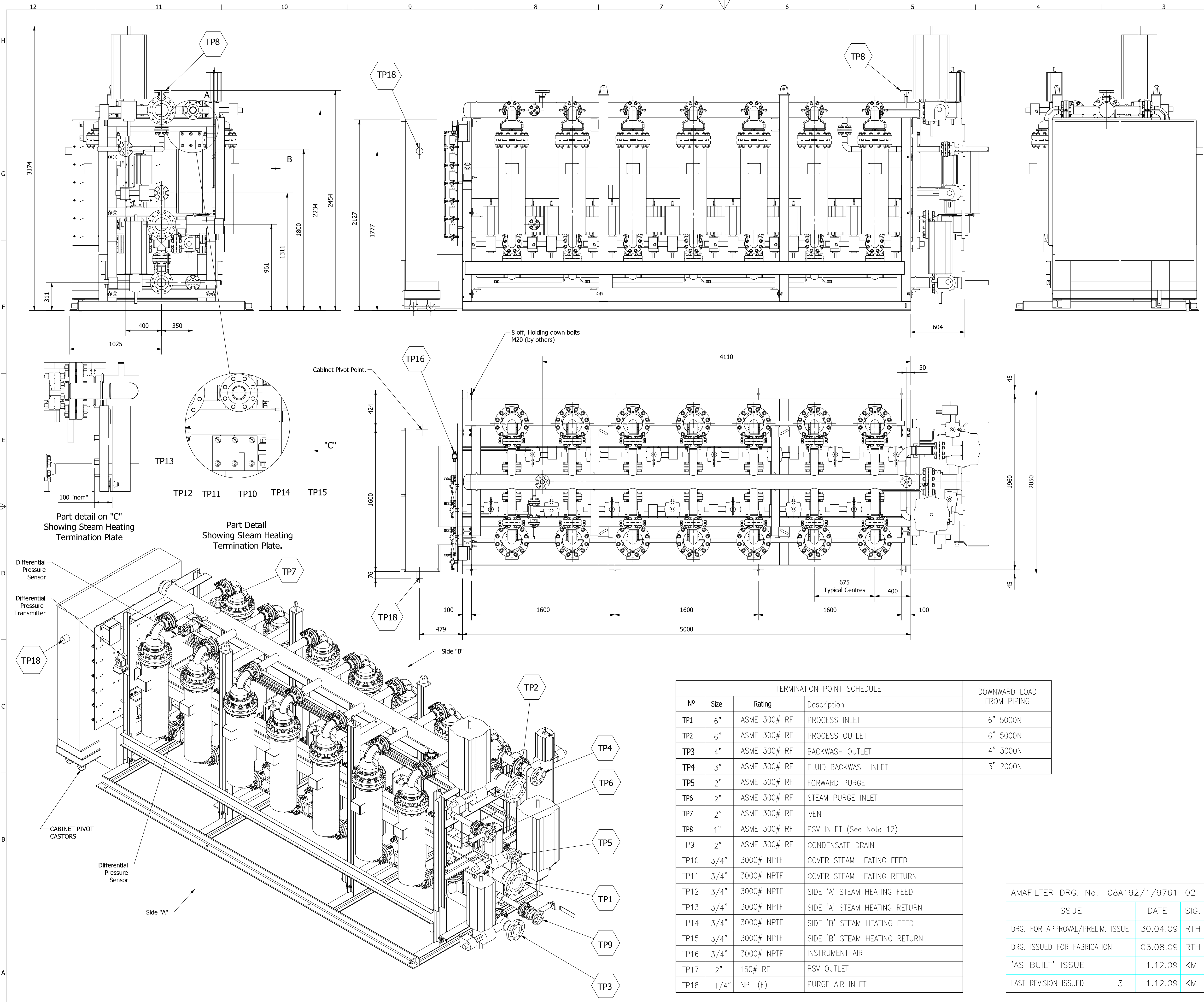
DRAWING TITLE: Automatic Backflushing Raw Oil Filter Package P. & I.D.

OEC Code: 9801, Unit: 14, Vendor Job No.: 08A192, Vendor Doc No.: 08A192/2/9760, Item No.: F-1401, Designation: (Equipment Service/J Applicable) FEED FILTER, NIOEC PROJ No.: 2260, Registration No.: 2260-IR- ME-33-0420-0

NIOEC DWG No.: 2260-PO-ME-33-0420-0, SIZE: A1, SCALE: NTS

1. Approved (Released for Manufacturing)
2. Approved as Issued for Fabrication (Fabrication may Proceed)
3. Approved as Issued for Re-issue (Fabrication what not Proceed)
4. Rejected
5. Not Returned

Date: XX.XX.XX, Sign:



1. INSULATION BY OTHERS.
2. INSULATION DESIGN THICKNESS ON VESSELS = 40mm.
3. INSULATION DESIGN THICKNESS ON PIPEWORK = 50mm.
4. SUPPORT FRAME PAINTED IN ACCORDANCE WITH:-
SP-2260-80-002-1 Table 1 Item 1.1
5. VESSELS PICKLED & PASSIVATED.
6. PIPEWORK HEADERS NOT PAINTED IN ACCORDANCE WITH:-
SP-2260-80-002-1 Table 1 Item 7.2
7. DELETED
8. STEAM TRACE HEATING NOT SHOWN FOR CLARITY.
9. AIR PIPEWORK NOT SHOWN FOR CLARITY
10. 1 OFF UNIT REQUIRED, INCLUDING 1 PSV
11. FLANGE SPEC' ASME B16.5
12. TP8 IS PIPING OUTLET (PSV INLET), PSV OUTLET IS 2" 150# RF.

Process & Instrumentation Diagram	08A192/1/9760

03	11.12.09	'AS BUILT' ISSUE	KM	JBH	SJR	X
02	25.08.09	RE-ISSUED FOLLOWING CLIENT COMMENTS	RTH	JBH	SJR	X
01	03.08.09	RE-ISSUED FOLLOWING CLIENT COMMENTS	RTH	JBH	SJR	X
00	30.04.09	FOR APPROVAL	RTH	JBH	SJR	X
REV.	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D	AC

NATIONAL IRANIAN OIL REFINING & DISTRIBUTION COMPANY
ENGINEERING & CONSTRUCTION CO.
SHAZAND ARAK REFINERY EXPANSION
AND UPGRADING PROJECT

CONTRACTOR:

DRAWING TITLE: Automatic Backflushing Raw Oil Filter
General Arrangement Drawing
Skid Assembly (Lead Unit)

QEC Code :	9801	Unit :	14	
Vendor Job No.:	08A192	Vendor Doc No.:	08A192/1/9761-02	
Item No.:	F-1401	Designation : (Equipment Service/J Applicable)	FEED FILTER	
NIOEC PROJ No.:	2260	Requisition No.:	2260-IR-ME-3-3-0420-0	

NIOEC DWS No.:	2260-PO-[MEH3H3H042020H0H0H0H22]	SIZE:	A1	REV.:	XXX	SCALE:	
Comments :							
1. Approved (Released for Manufacturing)							
2. Approved as noted for Fabrication (Fabrication may Proceed)							
3. Approved as noted for Re-issue (Fabrication shall not Proceed)							
4. Rejected							
5. Not Returned							
Date :	XX.XX.XX	Sign :	X				

TERMINATION POINT SCHEDULE					DOWNWARD LOAD FROM PIPING
Nº	Size	Rating	Description		
TP1	6"	ASME 300# RF	PROCESS INLET		6" 5000N
TP2	6"	ASME 300# RF	PROCESS OUTLET		
TP3	4"	ASME 300# RF	BACKWASH OUTLET		4" 3000N
TP4	3"	ASME 300# RF	FLUID BACKWASH INLET		3" 2000N
TP5	2"	ASME 300# RF	FORWARD PURGE		
TP6	2"	ASME 300# RF	STEAM PURGE INLET		AMAFILTER

AMAFILTER DRG. No. 08A192/1/9761-02		
ISSUE	DATE	SIG.
DRG. FOR APPROVAL/PRELIM. ISSUE	30.04.09	RTH
DRG. ISSUED FOR FABRICATION	03.08.09	RTH
'AS BUILT' ISSUE	11.12.09	KM
LAST REVISION ISSUED	3	11.12.09 KM