



KARAJET

Rupture Disc / Product Selection Guide



Introduction

Description

Overpressure and vacuum is feature of virtually every production process. If the pressure rises above or falls below the specified limits, major damage to plant components may result. The consequences are production standstills and serious commercial losses. A reliable and fast reacting pressure relief system is therefore essential to protect the plant in case the pressure rises above or falls below these limits.

Rupture discs are non-reclosing safety devices with precisely defined breaking points. They usually are full metal elements of nickel, nickel-based materials or stainless steel.

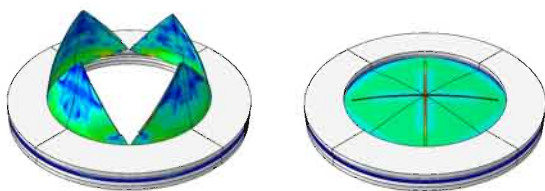
They are essentially used in processes with low to high pressures, high operating temperatures and considerable pressure oscillations. The scoring is located on the atmosphere side of the rupture disc, while the process facing side has a smooth finish so that adherence of the medium is prevented.

Reliable and cost-effective KARAJET® rupture discs are not standardised products. Our specialists always adapt them individually to the specific operating conditions of your processes.

We consider a wide range of parameters to ensure that every rupture disc functions perfectly.

These parameters include:

- The plant components to be protected
- Process medium
- Operating pressure
- Vacuum/cycles
- Burst pressure
- Burst temperature
- Nominal size required
- Mass flow to be discharged



Installation

Our rupture discs are mounted in the holder directly between standard flanges according to EN1092 or ASME B16.5.

Rupture discs are used for their superior properties for example in reactors, pressure vessels and gas cylinders either as sole pressure protection or in combination with a safety valve.

Function

If the pressure exceeds the permissible range during the process, the rupture disc ruptures. Thus the pressure can be released immediately.

Test Labretory

KARAJET® flow test laboratory is adaptable to run a wide range of flow tests. With the addition of a Liquid Flow Loop, the flow test laboratory runs a full range of flow tests with both air and liquid. Our test setups coupled with pressure/temperature instrumentation and custom written software, creates a measurement system that conforms to the strict testing requirements of the ASME Performance Test Code, PTC-25.

Certifications

Testing standards: AD 2000 Merkblatt A1, EN ISO 4126-2, EN 1127-1 / -13463/ -14373/ -14491/ -14797/ -14994/ -15233/ -16009/ -16447, VDI 3673, NFPA 68, NFPA 69, IEC 61508

Management systems: EN ISO 9001:2015, ISO/TS 29001:2010, KTA 1401, EN ISO 14001:2015

Numerical Analysis: Numerical simulation with reliable comercial finite element codes is one of the most important part of our design prosses.



RHP
(Reverse High Pressure)

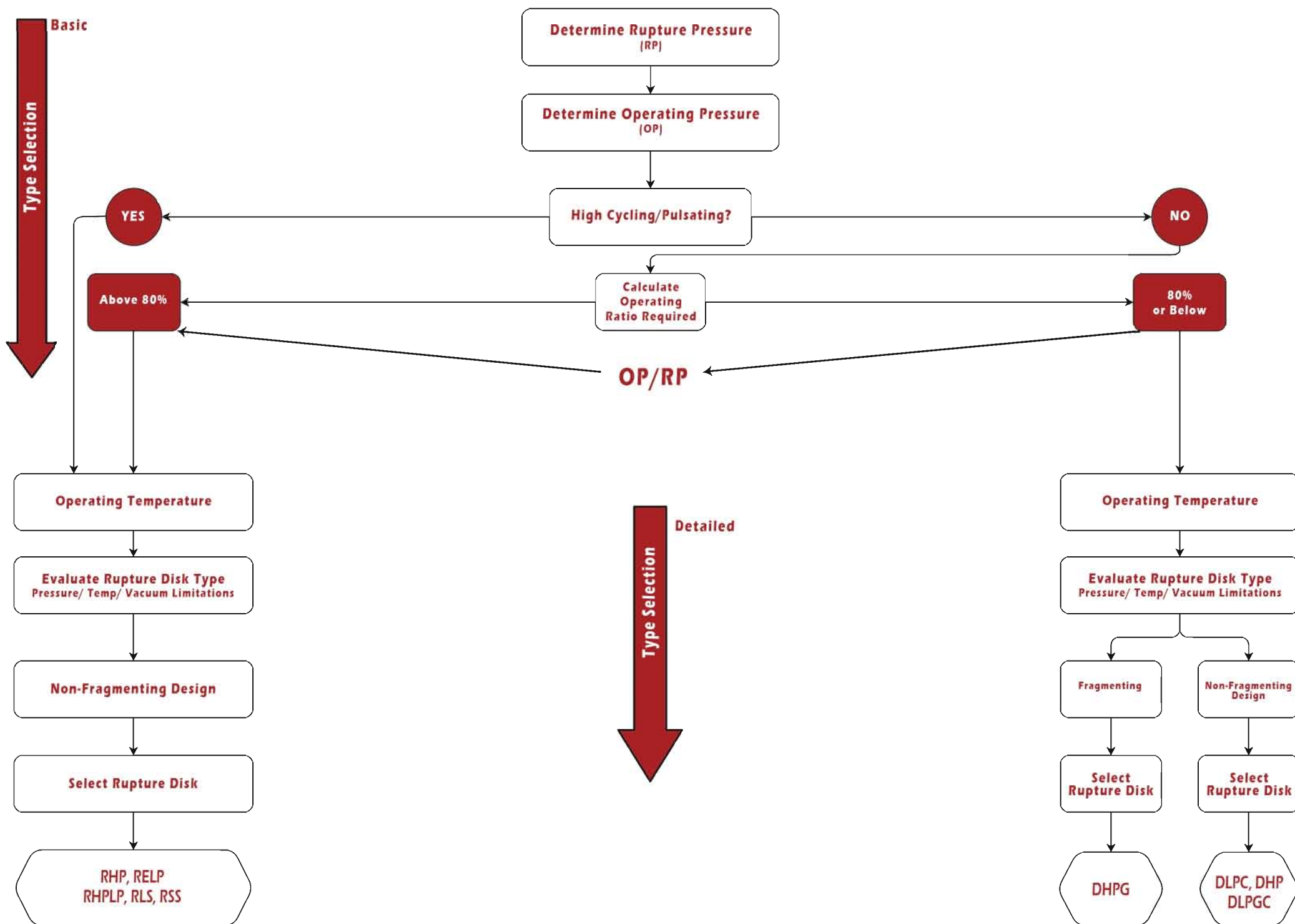


DHP
(Direct High Pressure)



DLPC
(Direct Low Pressure Composite)

Type	Scored	Size (mm)	Brust Pressure Range (Barg)	Manufacturing Range	Vaccum Support Need	Material	Seat Type
Reverse High Pressure (RHP)	✓	25 - 300	1 - 138	0%, -5%, -10%	✗	ALLOY 400, ALLOY 600 NICKEL, ALLOY C276 316 SS or 316L SS	Flat
Reverse Low Pressure (RLP)	✓	25 - 300	1 - 55	0%, -5%, -10%	✗	TANTALUM	Flat
Reverse Extra Low Pressure (RELPL)	✓	25 - 200	0.1 - 2	0%, -5%, -10%	✗	ALLOY 400, ALLOY 600 NICKEL, ALLOY C276 316 SS or 316L SS	Flat
Reverse Large Size (RLS)	✓	350 - 800	1.4 - 12.4	0%, -5%, -10%	✗	ALLOY 400, ALLOY 600 NICKEL, 316 SS or 316L SS	Flat
Reverse Smal Size (RSS)	✓	13 - 25	1.8 - 138	-10%	✗	ALLOY 400, ALLOY 600 NICKEL, 316 SS or 316L SS	Flat
Reverse High Precision Low Pressure (RHPLP)	✓	25 - 80	0.7 - 17.2	0%	✗	ALLOY 400, ALLOY 600 NICKEL, ALLOY C276 316 SS or 316L SS	Flat
Direct High Pressure (DHP)	✓	25 - 900	1 - 248	0%, -5%, -10%	✗	ALLOY 400, ALLOY 600 NICKEL, ALLOY C276 316 SS or 316L SS, TANTALUM	Flat
Direct Low Pressure Composite (DLPC)	✓	25 - 901	0.13 - 99	Standard, ¾, ½, ¼, 0	✓	Aluminum,ALLOY 400, ALLOY 600,NICKEL, 316 SS or 316L SS,ALLOY C276,TANTALUM,ALLOY C22	Flat
Direct High Pressure Gradient Seat (DHPG)	✗	6 - 750	0.2 - 500	Standard, ¾, ½	✓	Aluminum,ALLOY 400, ALLOY 600,NICKEL, 316 SS or 316L SS,ALLOY C276,TANTALUM	30°
Direct Low Pressure Gradient Seat Composite (DLPGC)	✓	25 - 750	0.14 - 99	Standard, ¾, ½, ¼, 0	✓	Aluminum,ALLOY 400, ALLOY 600,NICKEL, 316 SS or 316L SS,ALLOY C276,TANTALUM,ALLOY C22	30°



Holders

The holder Assembly is available in nominal sizes ranging from 1" through 36" for installation between ASME class companion flanges. Standard materials for the holder include 316 stainless steel, carbon steel, Alloy 400 and Alloy C276.

The flexibility of our holder assembly enables employment of various rupture disc types and burst pressures. Thus, the type of rupture disc can be changed rather than substituting the entire holder.

RUPTURE DISC NOMINAL SIZE	ANSI		DIN		JIS		HEIGHT	WEIGHT
	Class	Outside Diameter (inch / mm)	Class	Outside Diameter (mm)	Class	Outside Diameter (mm)	(inch / mm)	(lbs. / kgs)
1 in 25mm	150	2.50 / 63.5					1.75 / 44	1.7 / 0.8
	300 / 600	2.75 / 69.9	10 / 40	69.9	10 / 20	69.9	" "	2.5 / 1.1
					30 / 40	76.0	" "	2.7 / 1.2
	900 / 1500	3.00 / 76.2					2.25 / 57	3.5 / 1.6
	2500	3.25 / 82.6	64 / 250	82.0			" "	4.2 / 1.9
							2.75 / 70	5.5 / 2.5
1 1/2 in 40mm	150	3.25 / 82.6					1.75 / 44	2.7 / 1.2
	300 / 600	3.63 / 92.2	10 / 40	92.2	10 / 20	86.0	" "	3.0 / 1.4
	900 / 1500	3.75 / 95.3					" "	3.7 / 1.7
			30 / 40	97.0			2.50 / 64	5.8 / 2.6
			64 / 160	102.0			1.75 / 44	4.5 / 2.0
			250	108.0			2.50 / 64	6.9 / 3.0
							" "	8.5 / 3.8
	2500	4.50 / 114.3			30/40	97.0	1.75 / 44	4.5 / 2.0
2 in 50mm	150	4.00 / 101.6			10 / 20	101.6	1.75 / 44	3.8 / 1.7
	300 / 600	4.25 / 108.0	10 / 40	108.0			" "	4.5 / 2.0
			64	111.0	30 / 40	111.0	" "	5.0 / 2.3
			100 / 160	118.0			3.00 / 76	10 / 4.5
			250	123.0			" "	12 / 5.4
	900 / 1500	5.50 / 139.7					" "	16 / 7.3
2500	5.63 / 143.0					4.00 / 102	23 / 10	
3 in 80mm	150	5.25 / 133.4			10	131.0	2.25 / 57	7.1 / 3.2
					16 / 20	137.0	" "	7.6 / 3.4
			10 / 40	142.0			" "	8.5 / 3.9
	300 / 600	5.75 / 146.1	64	146.1	30 / 40	146.1	" "	9.5 / 4.3
			100 / 160	153.0			3.00 / 76	16 / 7.3
	900	6.50 / 165.1					" "	20 / 9.1
			250	170.0			3.75 / 95	27 / 12
	1500	6.75 / 171.5					" "	28 / 13
2500	7.63 / 193.8					5.25 / 133	54 / 24	
4 in 100mm			10 / 16	162.0	10	156.0	2.75 / 70	11 / 5.0
			25 / 40	168.0	16 / 20	162.0	" "	13 / 5.9
	150	6.75 / 171.5			30	168.0	" "	15 / 6.8
			64	173.0			" "	16 / 7.3
	300	7.00 / 177.8					3.00 / 76	50 / 23
			100 / 160	180.0	40	180.0	2.75 / 70	18 / 8.2
	600	7.50 / 190.5					3.50 / 89	64 / 29
			250	202.0			3.00 / 76	24 / 11
	900	8.00 / 203.2					4.25 / 108	99 / 45
	1500	8.13 / 206.5					3.50 / 89	34 / 15
2500	9.13 / 231.9					4.25 / 108	43 / 20	
						6.00 / 152	85 / 39	

RUPTURE DISC NOMINAL SIZE	ANSI		DIN		JIS		HEIGHT	WEIGHT
	Class	Outside Diameter (inch / mm)	Class	Outside Diameter (mm)	Class	Outside Diameter (mm)	(inch / mm)	(lbs. / kgs)
6 in 150mm			10 / 16	217.0	10	217.0	3.75 / 95	26 / 12
	150	8.63 / 219.2					" "	26 / 12
			25 / 40	223.0			" "	29 / 13
					16 / 20	235.0	" "	36 / 16
			64	247.0			" "	44 / 20
	300	9.75 / 247.7			30	247.7	" "	44 / 20
			100 / 160	257.0			4.50 / 114	60 / 27
	600	10.38 / 263.7			40	262.0	3.75 / 95	54 / 24
	900	11.25 / 285.8					" "	55 / 25
	1500	11.00 / 279.4					4.50 / 114	85 / 39
2500	12.38 / 314.5					6.50 / 165	120 / 54	
						8.50 / 216	211 / 96	
8 in 200mm			10 / 16	272.0	10	267.0	3.50 / 89	30 / 14
	150	10.88 / 276.4					3.13 / 80	29 / 13
					16 / 20	280.0	3.13 / 80	32 / 15
			25	283.0			3.13 / 80	34 / 15
			40	290.0			3.63 / 92	42 / 19
					30	293.0	3.63 / 92	47 / 21
	300	12.00 / 304.8					3.63 / 92	49 / 22
			64	309.0			3.63 / 92	57 / 26
	600	12.50 / 317.5			40	312.0	4.56 / 116	77 / 35
	900	14.00 / 355.6					3.63 / 92	65 / 29
1500	13.75 / 349.3	100 / 160	324.0			4.38 / 111	84 / 38	
2500	15.13 / 384.3			250	358.0	5.00 / 127	101 / 46	
						7.25 / 184	138 / 63	
						7.25 / 184	190 / 86	
						10.00 / 254	205 / 93	
							350 / 159	
10 in 250mm	150	13.25 / 336.6	10 / 16	327.0	10	330.0	2.50 / 64	35 / 16
			25	340.0			" "	37 / 17
			40	352.0			3.92 / 100	76 / 34
	300	14.13 / 358.9			16 / 20	353.0	" "	78 / 35
				30	357.0	2.50 / 64	41 / 19	
				40	377.0	3.92 / 100	80 / 36	
						" "	85 / 38	
12 in 300mm					5	367.0	2.63 / 67	48 / 22
					10	375.0	" "	50 / 23
							" "	53 / 24
							4.12 / 105	104 / 47
	150	16.00 / 406.4			16 / 20	403.0	2.63 / 67	59 / 27
	300	16.50 / 419.1			30	417.0	4.12 / 105	109 / 49
				40	431.0	4.12 / 105	113 / 51	



Rupture Disc / Product Selection Guide

HOLDERS - Continue

RUPTURE DISC NOMINAL SIZE	ANSI		DIN		JIS		HEIGHT (inch / mm)	WEIGHT (lbs. / kgs)
	Class	Outside Diameter (inch / mm)	Class	Outside Diameter (mm)	Class	Outside Diameter (mm)		
14 in 350mm					5	410,0	2.25 / 57	35 / 16
					10	420,0	2.25 / 57	41 / 19
			10	437,0			2.25 / 57	52 / 24
			16	443,0			2.25 / 57	56 / 25
					16 / 20	447,8	2.25 / 57	59 / 27
	150	17.63 / 447,8					2.25 / 57	73 / 27
			25	457,0			4.25 / 108	125 / 57
			30	462,0			4.25 / 108	132 / 60
			40	474,0	40	474,0	4.25 / 108	148 / 67
	300	19.00 / 482,6					4.25 / 108	160 / 73
16 in 400mm					5	470,0	3.00 / 76	62 / 28
					10	183,0	3.00 / 76	74 / 34
			10	488,0			3.00 / 76	79 / 36
			16	495,0			3.00 / 76	86 / 39
					16/20	507,0	3.00 / 76	98 / 44
	150	20.13 / 511,3					3.00 / 76	102 / 46
			25	514,0			4.50 / 114	159 / 72
					30	521,0	4.50 / 114	170 / 77
					40	531,0	4.50 / 114	186 / 84
	300	21.13 / 511,3	40	546,0			4.50 / 114	195 / 88
18 in 450mm					2 / 5	530,0	3.00 / 76	79 / 36
					10	538,0	3.00 / 76	87 / 39
	150	21.50 / 546,0					3.00 / 76	96 / 44
					16 / 20	572,0	3.00 / 76	125 / 57
300	23.38 / 593,9					4.75 / 121	241 / 109	
20 in 500mm					2 / 5	580,0	3.13 / 80	89 / 40
					10	593,0	3.13 / 80	105 / 48
	150	23.75 / 603,3	10	593,0			3.13 / 80	118 / 54
			16	617,0			3.13 / 80	135 / 61
					16 / 20	627,0	3.13 / 80	148 / 67
			25	624,0			5.13 / 130	240 / 109
		40	628,0			5.13 / 130	248 / 112	
300	25.63 / 651,0					5.13 / 130	299 / 136	

RUPTURE DISC NOMINAL SIZE	ANSI		DIN		JIS		HEIGHT (inch / mm)	WEIGHT (lbs. / kgs)
	Class	Outside Diameter (inch / mm)	Class	Outside Diameter (mm)	Class	Outside Diameter (mm)		
24 in 600mm					6	678,0	3.25 / 83	106 / 48
							3.25 / 83	121 / 55
					10	695,0	3.25 / 83	131 / 59
							3.25 / 83	134 / 61
					10	697,0	3.25 / 83	161 / 73
	150	28.13 / 714,5					3.25 / 83	186 / 84
					16 / 20	731,0	3.25 / 83	191 / 87
							5.00 / 127	290 / 132
					16	734,0	5.00 / 127	393 / 178
	300	30.38 / 714,5			25	731,0		
28 in 700mm					6	783,0	4.00 / 102	164 / 74
							4.00 / 102	183 / 83
					16	804,0	4.00 / 102	206 / 93
							4.00 / 102	213 / 97
					10	810,0	4.00 / 102	219 / 99
	150	32.63 / 828,8					4.00 / 102	260 / 118
30 in 750mm							4.00 / 102	269 / 122
					20	852,0	4.00 / 102	311 / 141
					2 / 5	847,0	4.00 / 102	201 / 91
					10	867,0	4.00 / 102	246 / 112
							4.00 / 102	275 / 125
	150	34.63 / 879,6			16	893,0	4.00 / 102	307 / 139
32 in 800mm					20	914,0	4.00 / 102	356 / 161
							4.00 / 102	196 / 89
					6	890,0	4.00 / 102	212 / 96
					16	911,0	4.00 / 102	246 / 112
					10	917,0	4.00 / 102	260 / 118
	150	36.88 / 936,8					4.00 / 102	308 / 140
36 in 900mm							4.00 / 102	321 / 146
					20	974,0	4.00 / 102	402 / 182
					6	990,0	4.00 / 102	215 / 98
							4.00 / 102	233 / 106
					16	1011,0	4.00 / 102	269 / 122
	150	41.00 / 1041,4			10	1017,0	4.00 / 102	286 / 130
						4.00 / 102	352 / 160	
				16	1042,0	4.00 / 102	353 / 160	
				20	1084,0	4.00 / 102	471 / 214	

Karajet Rupture Disc Reference List

Equipment

Reverse Rupture Disc & Holder
 Reverse Rupture Disc & Holder
 Reverse Rupture Disc & Holder
 Reverse Rupture Disc & Holder

Purchaser

Khorasan Petrochemical
 Booshehr Petrochemical
 Booshehr Petrochemical
 Booshehr Petrochemical

Year

2021
 2021
 2021
 2021

Quantity

x2
 x8
 x6
 x10



 Karajet.com
 05135413212
 05135413211
 commercial@karajet.com
 No. 870, 15 St. Andisheh Blvd, Toos Industrial Estate, Mashhad, Iran

Achilles  **FPS**

Certificate of Membership

KaraJet

This is to certify that
Supplier number: 207851

are now a supplier member of Achilles FPS Oil & Gas Asia Pacific for the following products/services:

- 1.50.09 Other Instrument / Communication and Process Control Equipment / Materials
- 1.5.8 Steam Engines / Turbocompressors
- 1.4.7 Liquid Jet Pumps / Submersibles
- 1.4.6 Vacuum Pumps
- 1.7.5 Maintenance Controls and Conduits

Chia Khamis
Chief Marketing
Global Operations Director
Achilles Group Limited

Expiry Date: 22 Aug 2017



Achilles Singapore Pte Ltd
Level 10, 30 Robinson Road, Singapore 220110
T: +65 (0) 71888 0000 | www.achilles.com

