



MAXIMUM OPERATING CONDITIONS		
Temp C	Pressure	Speed
-30	6000 PSI	1.5ft/sec
+100	400 BAR	0.5m/sec

LEAD IN CHAMFERS	
$\varnothing d$	f
0-60	4
60-120	5
120-180	6
180-250	8
250-400	10

METRIC	e9 >120 e8	Jsl1 >120 Jsl0	+0.4 +0.6	+/-0.1	MAX
Part No.	$\varnothing d$	$\varnothing D$	L	$\varnothing dg$	R_1
MD 8-16-6-E	8	16	6	8.2	0.2
MD 12-23-7-E	12	23	7	12.2	0.4
MD 15-27-6.5-E	15	27	6.5	15.2	0.4
MD 16-24-6.5-E	16	24	6.5	16.2	0.2
MD 16-28-7-E	16	28	7	16.2	0.4
MD 18-25-5.5-E	18	25	5.5	18.2	0.2
MD 18-28-5.8-E	18	28	5.8	18.2	0.4
MD 18-28-6.5-E	18	28	6.5	18.2	0.4
MD 18-30-7-E	18	30	7	18.2	0.4
MD 20-27-6-E	20	27	6	20.2	0.2
MD 20-28-5.8-E	20	28	5.8	20.2	0.2
MD 20-28-6.4-E	20	28	6.4	20.2	0.2
MD 20-30-8-E	20	30	8	20.2	0.4
MD 20-32-9-E	20	32	9	20.2	0.4
MD 20-32-9.5-E	20	32	9.5	20.2	0.4
MD 22-30-6.5-E	22	30	6.5	22.2	0.2
MD 22-34-9-E	22	34	9	22.2	0.4
MD 22-35-9.5-E	22	35	9.5	22.2	0.4
MD 25-33-6-E	25	33	6	25.2	0.2
MD 25-33-6.4-E	25	33	6.4	25.2	0.2
MD 25-35-8-E	25	35	8	25.2	0.4
MD 25-35-8.5-E	25	35	8.5	25.2	0.4
MD 25-37-10-E	25	37	10	25.2	0.4
MD 25-38-9.5-E	25	38	9.5	25.2	0.4
MD 25-38-10-E	25	38	10	25.2	0.4
MD 28-38-7.5-E	28	38	7.5	28.2	0.4
MD 28-38-8-E	28	38	8	28.2	0.4
MD 28-40-9-E	28	40	9	28.2	0.4
MD 30-38-6-E	30	38	6	30.2	0.2
MD 30-40-8.5-E	30	40	8.5	30.2	0.4
MD 30-40-10-E	30	40	10	30.2	0.4
MD 30-40-10.5-E	30	40	10.5	30.2	0.4
MD 30-42-10-E	30	42	10	30.2	0.4
MD 30-45-8.5-E	30	45	8.5	30.2	0.8

MD 30-45-9-E	30	45	9	30.2	0.8
MD 30-45-10.5-E	30	45	10.5	30.2	0.8
MD 30-50-14-E	30	50	14	30.2	0.8
MD 32-40-8.5-E	32	40	8.5	32.2	0.2
MD 32-42-8-E	32	42	8	32.2	0.4
MD 32-44-11-E	32	44	11	32.2	0.4
MD 32-45-9.5-E	32	45	9.5	32.2	0.4
MD 32-46-10-E	32	46	10	32.2	0.4
MD 35-43-6-E	35	43	6	35.2	0.2
MD 35-45-6.5-E	35	45	6.5	35.2	0.4
MD 35-45-7.5-E	35	45	7.5	35.2	0.4
MD 35-45-9.5-E	35	45	9.5	35.2	0.4
MD 35-45-10-E	35	45	10	35.2	0.4
MD 35-45-10.5-E	35	45	10.5	35.2	0.4
MD 35-50-10.5-E	35	50	10.5	35.2	0.8
MD 35-50-11.5-E	35	50	11.5	35.2	0.8
MD 36-43-6-E	36	43	6	36.2	0.2
MD 36-46-8-E	36	46	8	36.2	0.4
MD 36-48-9-E	36	48	9	36.2	0.4
MD 38-45-6-E	38	45	6	38.2	0.2
MD 38-55-10.5-E	38	55	10.5	38.2	0.8
MD 40-48-6-E	40	48	6	40.2	0.2
MD 40-48-8-E	40	48	8	40.2	0.2
MD 40-50-7.5-E	40	50	7.5	40.2	0.4
MD 40-50-9.5-E	40	50	9.5	40.2	0.4
MD 40-50-10-E	40	50	10	40.2	0.4
MD 40-50-10.5-E	40	50	10.5	40.2	0.4
MD 40-52-9-E	40	52	9	40.2	0.4
MD 40-52-10.5-E	40	52	10.5	40.2	0.4
MD 40-55-7-E	40	55	7	40.2	0.8
MD 40-55-7.5-E	40	55	7.5	40.2	0.8
MD 40-55-10.5-E	40	55	10.5	40.2	0.8
MD 40-60-10-E	40	60	10	40.2	0.8
MD 40-60-10.5-E	40	60	10.5	40.2	0.8
MD 40-60-14-E	40	60	14	40.2	0.8
MD 45-53-8-E	45	53	8	45.2	0.2
MD 45-53-10.5-E	45	53	10.5	45.2	0.2
MD 45-55-7.5-E	45	55	7.5	45.2	0.4
MD 45-55-10.5-E	45	55	10.5	45.2	0.4
MD 45-60-10-E	45	60	10	45.2	0.8
MD 45-60-10.5-E	45	60	10.5	45.2	0.8
MD 45-63-10.5-E	45	63	10.5	45.2	0.8
MD 45-65-14-E	45	65	14	45.2	0.4
MD 48-60-10.5-E	48	60	10.5	48.2	0.4
MD 50-60-7.5-E	50	60	7.5	50.2	0.4
MD 50-60-9.5-E	50	60	9.5	50.2	0.4
MD 50-60-10-E	50	60	10	50.2	0.4
MD 50-62-9-E	50	62	9	50.2	0.4
MD 50-62-9.5-E	50	62	9.5	50.2	0.4
MD 50-65-10.5-E	50	65	10.5	50.2	0.8
MD 50-70-14-E	50	70	14	50.2	0.8
MD 55-65-7.5-E	55	65	7.5	55.2	0.4
MD 55-65-10.5-E	55	65	10.5	55.2	0.4
MD 55-65-13-E	55	65	13	55.2	0.4
MD 55-70-10-E	55	70	10	55.2	0.8
MD 55-75-14-E	55	75	14	55.2	0.8
MD 56-66-10.5-E	56	66	10.5	56.2	0.4
MD 56-71-10-E	56	71	10	56.2	0.8
MD 56-71-12-E	56	71	12	56.2	0.8
MD 56-76-14-E	56	76	14	56.2	0.8
MD 60-70-8-E	60	70	8	60.2	0.4
MD 60-70-9.5-E	60	70	9.5	60.2	0.4
MD 60-70-10.5-E	60	70	10.5	60.2	0.4
MD 60-70-12.5-E	60	70	12.5	60.2	0.4

MD 60-72-9.5-E	60	72	9.5	60.2	0.4
MD 60-75-12.5-E	60	75	12.5	60.2	0.8
MD 60-80-14-E	60	80	14	60.2	0.8
MD 63-75-10.5-E	63	75	10.5	63.2	0.4
MD 63-78-10-E	63	78	10	63.2	0.8
MD 63-83-14-E	63	83	14	63.2	0.8
MD 65-75-13-E	65	75	13	65.2	0.4
MD 65-80-11-E	65	80	11	65.2	0.8
MD 65-80-12-E	65	80	12	65.2	0.8
MD 65-85-14-E	65	85	14	65.2	0.8
MD 70-80-12.5-E	70	80	12.5	70.2	0.4
MD 70-84-12-E	70	84	12	70.2	0.4
MD 70-85-11.5-E	70	85	11.5	70.2	0.8
MD 70-85-12-E	70	85	12	70.2	0.8
MD 70-90-14-E	70	90	14	70.2	0.8
MD 75-85-12-E	75	85	12	75.2	0.4
MD 75-90-11-E	75	90	11	75.2	0.8
MD 75-95-14-E	75	95	14	75.2	0.8
MD 78-90-12-E	78	90	12	78.2	0.4
MD 80-90-12.5-E	80	90	12.5	80.2	0.4
MD 80-95-10-E	80	95	10	80.2	0.8
MD 80-95-11.5-E	80	95	11.5	80.2	0.8
MD 80-95-12.5-E	80	95	12.5	80.2	0.8
MD 80-96-10-E	80	96	10	80.2	0.8
MD 80-100-11.5-E	80	100	11.5	80.2	0.8
MD 80-100-12-E	80	100	12	80.2	0.8
MD 80-100-14-E	80	100	14	80.2	0.8
MD 85-100-11.5-E	85	100	11.5	85.2	0.8
MD 85-100-12-E	85	100	12	85.2	0.8
MD 85-105-14.3-E	85	105	14.3	85.2	0.8
MD 90-100-10-E	90	100	10	90.2	0.4
MD 90-100-10.5-E	90	100	10.5	90.2	0.4
MD 95-105-12-E	90	105	12	90.2	0.8
MD 90-110-12-E	90	110	12	90.2	0.8
MD 90-110-14-E	90	110	14	90.2	0.8
MD 95-105-10.5-E	95	105	10.5	95.2	0.4
MD 95-115-14-E	95	115	14	95.2	0.8
MD 100-113-13-E	100	113	13	100.2	0.4
MD 100-115-12-E	100	115	12	100.2	0.8
MD 100-120-11.5-E	100	120	11.5	100.2	0.8
MD 100-120-14-E	100	120	14	100.2	0.8
MD 105-115-10.5-E	105	115	10.5	105.2	0.4
MD 105-120-13-E	105	120	13	105.2	0.8
MD 105-120-15-E	105	120	15	105.2	0.8
MD 105-125-12-E	105	125	12	105.2	0.8
MD 110-120-10.5-E	110	120	10.5	110.2	0.4
MD 110-125-11.5-E	110	125	11.5	110.2	0.8
MD 110-130-10-E	110	130	10	110.2	0.8
MD 110-130-12-E	110	130	12	110.2	0.8
MD 110-130-15-E	110	130	15	110.2	0.8
MD 110-135-15-E	110	135	15	110.2	0.8
MD 115-130-10-E	115	130	10	115.2	0.8
MD 115-135-14-E	115	135	14	115.2	0.8
MD 115-135-15-E	115	135	15	115.2	0.8
MD 115-135-15.5-E	115	135	15.5	115.2	0.8
MD 120-130-10.5-E	120	130	10.5	120.2	0.4
MD 120-130-12-E	120	130	12	120.2	0.4
MD 120-140-12-E	120	140	12	120.2	0.8

MD 120-140-15.5-E	120	140	15.5	120.2	0.8
MD 121.2-150-24-E	121.2	150	24	121.4	0.8
MD 125-140-12-E	125	140	12	125.2	0.8
MD 125-150-14-E	125	150	14	125.2	0.8
MD 125-150-15-E	125	150	15	125.2	0.8
MD 130-145-9-E	130	145	9	130.2	0.8
MD 130-145-12.5-E	130	145	12.5	130.2	0.8
MD 130-150-15.5-E	130	150	15.5	130.2	0.8
MD 135-150-9-E	135	150	9	135.2	0.8
MD 140-150-10.5-E	140	150	10.5	140.2	0.4
MD 140-150-12-E	140	150	12	140.2	0.4
MD 140-160-12-E	140	160	12	140.2	0.8
MD 140-160-14-E	140	160	14	140.2	0.8
MD 140-165-15-E	140	165	15	140.2	0.8
MD 150-165-12.5-E	150	165	12.5	150.2	0.8
MD 150-170-14-E	150	170	14	150.2	0.8
MD 160-175-16-E	160	175	16	160.2	0.8
MD 160-180-14-E	160	180	14	160.2	0.8
MD 160-185-15-E	160	185	15	160.2	0.8
MD 170-182.7-9.5-E	170	182.7	9.5	170.2	0.4
MD 180-200-14-E	180	200	14	180.2	0.8
MD 190-210-14.5-E	190	210	14.5	190.2	0.8
MD 200-220-14-E	200	220	14	200.2	0.8
MD 210-230-14-E	210	230	14	210.2	0.8
MD 220-245-15-E	220	245	15	220.2	0.8