



FORGED STEEL FITTINGS

Forged Steel Fitting Product Specifications



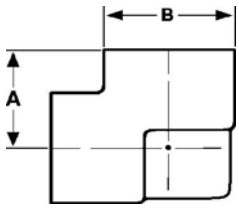
- ✘ *Manufactured in ISO9000:2000 Facility*
- ✘ *Dimensions Conform to ASME B16.11*
- ✘ *Threaded Items Conform to ASME B1.20.1*
- ✘ *Manufactured from ASTM A105 Material*



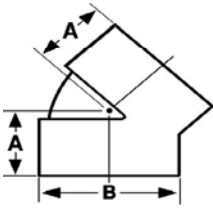
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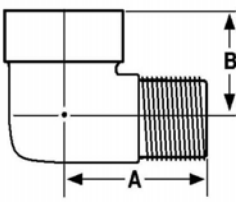
3000# FORGED STEEL FITTINGS

90° Elbows	Threaded					Socket Weld			
	Size	A	B	MSI Item	Weight	A	B	MSI Item	Weight
	1/8"	0.81	600	A2410002	0.27	0.82	0.68	A2410002S	0.13
	1/4"	0.97	420	A2410004	0.37	0.82	0.82	A2410004S	0.18
	3/8"	1.12	540	A2410006	0.63	0.91	0.98	A2410006S	0.25
	1/2"	1.31	400	A2410008	0.89	1.00	1.20	A2410008S	0.50
	3/4"	1.50	210	A2410012	1.41	1.25	1.41	A2410012S	0.69
	1"	1.75	120	A2410016	2.22	1.38	1.74	A2410016S	1.06
	1 1/4"	2.00	80	A2410020	2.49	1.56	2.10	A2410020S	1.63
	1 1/2"	2.38	60	A2410024	3.70	1.75	2.36	A2410024S	2.13
	2"	2.50	32	A2410032	5.50	2.12	2.89	A2410032S	2.90
	2 1/2"	3.25	18	A2410040	11.20	2.24	3.54	A2410040S	6.38
	3"	3.75	14	A2410048	14.30	2.87	4.21	A2410048S	10.90
	4"	4.50	6	A2410064	31.20	3.37	5.30	A2410064S	23.70

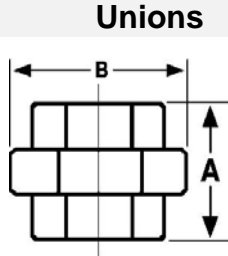
3000# FORGED STEEL FITTINGS

45° Elbows	Threaded					Socket Weld			
	Size	A	B	MSI Item	Weight	A	B	MSI Item	Weight
	1/4"	0.75	1.00	A2410404	0.27	0.69	0.82	A2410404S	0.13
	3/8"	0.88	1.31	A2410406	0.51	0.69	0.98	A2410406S	0.19
	1/2"	1.00	1.50	A2410408	0.72	0.82	1.20	A2410408S	0.38
	3/4"	1.12	1.81	A2410412	1.20	1.00	1.41	A2410412S	0.55
	1"	1.31	2.19	A2410416	1.94	1.06	1.74	A2410416S	0.92
	1 1/4"	1.38	2.44	A2410420	2.18	1.19	2.10	A2410420S	1.28
	1 1/2"	1.69	2.97	A2410424	3.50	1.31	2.36	A2410424S	1.63
	2"	1.72	3.31	A2410432	4.71	1.62	2.89	A2410432S	2.69
	2 1/2"	2.06	4.00	A2410440	7.35	1.74	3.54	A2410440S	6.75
	3"	2.50	4.75	A2410448	12.60	1.87	4.21	A2410448S	10.50

3000# FORGED STEEL FITTINGS

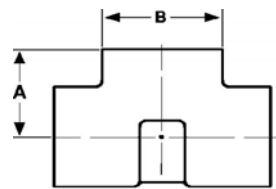
90° Street Elbows	Threaded					Socket Weld			
	Size	A	B	MSI Item	Weight	A	B	MSI Item	Weight
	1/8"	1.25	0.97	A2410602	0.25	N/A	N/A	Unavailable	N/A
	1/4"	1.25	0.97	A2410604	0.25	N/A	N/A	Unavailable	N/A
	3/8"	1.50	1.12	A2410606	0.38	N/A	N/A	Unavailable	N/A
	1/2"	1.69	1.31	A2410608	0.58	N/A	N/A	Unavailable	N/A
	3/4"	1.94	1.50	A2410612	0.92	N/A	N/A	Unavailable	N/A
	1"	2.31	1.75	A2410616	1.44	N/A	N/A	Unavailable	N/A
	1 1/4"	2.69	2.00	A2410620	2.44	N/A	N/A	Unavailable	N/A
	1 1/2"	2.81	2.38	A2410624	3.95	N/A	N/A	Unavailable	N/A
	2"	3.38	2.50	A2410632	5.28	N/A	N/A	Unavailable	N/A

3000# FORGED STEEL FITTINGS



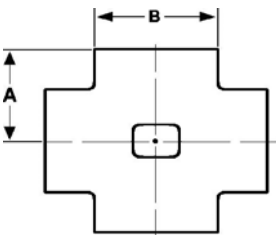
Unions	Threaded					Socket Weld			
	Size	A	B	MSI Item	Weight	A	B	MSI Item	Weight
	1/8"	1.66	1.48	A2440802	0.38	1.66	1.48	A2440802S	0.34
	1/4"	1.66	1.48	A2440804	0.36	1.66	1.48	A2440804S	0.34
	3/8"	1.83	1.66	A2440806	0.50	1.83	1.66	A2440806S	0.49
	1/2"	2.00	1.93	A2440808	0.70	2.00	1.93	A2440808S	0.68
	3/4"	2.31	2.38	A2440812	1.18	2.31	2.38	A2440812S	1.19
	1"	2.42	2.78	A2440816	1.64	2.42	2.78	A2440816S	1.68
	1 1/4"	2.86	3.35	A2440820	2.59	2.86	3.35	A2440820S	2.54
	1 1/2"	3.00	3.70	A2440824	3.41	3.00	3.70	A2440824S	3.33
	2"	3.50	4.42	A2440832	5.12	3.50	4.42	A2440832S	5.30
	2 1/2"	4.25	5.22	A2440840	8.75	4.25	5.22	A2440840S	8.50
	3"	4.42	6.15	A2440848	12.60	4.42	6.15	A2440848S	12.70

3000# FORGED STEEL FITTINGS



Tees	Threaded					Socket Weld			
	Size	A	B	MSI Item	Weight	A	B	MSI Item	Weight
	1/8"	0.81	0.88	A2420002	0.35	0.82	0.68	A2420002S	0.25
	1/4"	0.97	1.00	A2420004	0.42	0.82	0.82	A2420004S	0.31
	3/8"	1.12	1.31	A2420006	0.77	0.91	0.98	A2420006S	0.35
	1/2"	1.31	1.50	A2420008	1.25	1.00	1.20	A2420008S	0.72
	3/4"	1.50	1.81	A2420012	1.85	1.25	1.41	A2420012S	1.03
	1"	1.75	2.19	A2420016	3.07	1.38	1.74	A2420016S	1.45
	1 1/4"	2.00	2.44	A2420020	3.55	1.56	2.10	A2420020S	2.15
	1 1/2"	2.38	2.97	A2420024	6.72	1.75	2.36	A2420024S	2.95
	2"	2.50	3.31	A2420032	7.20	2.12	2.89	A2420032S	4.85
	2 1/2"	3.25	4.00	A2420040	13.10	2.24	3.54	A2420040S	10.20
	3"	3.75	4.75	A2420048	21.60	2.87	4.21	A2420048S	16.30
	4"	4.50	6.00	A2420064	39.70	3.37	5.30	A2440864S	28.60

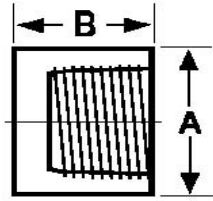
3000# FORGED STEEL FITTINGS



Crosses	Threaded					Socket Weld			
	Size	A	B	MSI Item	Weight	A	B	MSI Item	Weight
	1/8"	0.81	0.88	A2430202	0.42	N/A	N/A	A2430202S	N/A
	1/4"	0.97	1.00	A2430204	0.52	0.82	0.82	A2430204S	0.25
	3/8"	1.12	1.31	A2430206	0.98	0.91	0.98	A2430206S	0.34
	1/2"	1.31	1.50	A2430208	1.48	1.00	1.20	A2430208S	0.75
	3/4"	1.50	1.81	A2430212	2.52	1.25	1.41	A2430212S	1.00
	1"	1.75	2.19	A2430216	3.58	1.38	1.74	A2430216S	1.49
	1 1/4"	2.00	2.44	A2430220	4.10	1.56	2.10	A2430220S	2.20
	1 1/2"	2.38	2.97	A2430224	6.55	1.75	2.36	A2430224S	2.81
	2"	2.50	3.31	A2430232	8.12	2.12	2.89	A2430232S	4.77

3000# FORGED STEEL FITTINGS

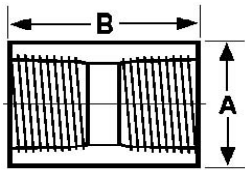
Caps



Size	Threaded					Socket Weld				
	A	B	MSI Item	Weight	A	B	MSI Item	Weight		
1/8"	0.62	0.75	A2440502	0.04	0.63	0.75	A2440502S	0.06		
1/4"	0.75	1.00	A2440504	0.07	0.63	1.00	A2440504S	0.08		
3/8"	0.88	1.00	A2440506	0.13	0.69	1.06	A2440506S	0.15		
1/2"	1.12	1.25	A2440508	0.25	0.81	1.31	A2440508S	0.25		
3/4"	1.33	1.44	A2440512	0.36	0.81	1.50	A2440512S	0.33		
1"	1.75	1.62	A2440516	0.62	0.94	1.88	A2440516S	0.49		
1 1/4"	2.25	1.75	A2440520	1.12	0.94	2.25	A2440520S	0.88		
1 1/2"	2.50	1.75	A2440524	1.56	1.00	2.50	A2440524S	1.14		
2"	3.00	1.88	A2440532	2.85	1.19	3.00	A2440532S	1.80		
2 1/2"	3.62	2.38	A2440540	5.00	1.31	3.63	A2440540S	2.90		
3"	4.25	2.56	A2440548	8.50	1.50	4.25	A2440548S	4.23		
4"	5.50	2.69	A2440564	13.50	1.75	5.50	A2440864S	7.55		

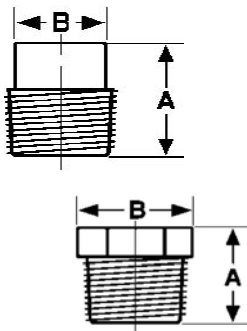
3000# FORGED STEEL FITTINGS

Couplings



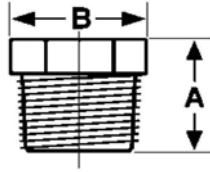
Size	Threaded					Socket Weld				
	A	B	MSI Item	Weight	A	B	MSI Item	Weight		
1/8"	0.62	1.25	A2430402	0.11	1.01	0.68	A2430402S	0.10		
1/4"	0.75	1.38	A2430404	0.10	1.01	0.82	A2430404S	0.12		
3/8"	0.88	1.50	A2430406	0.12	1.01	0.98	A2430406S	0.18		
1/2"	1.12	1.88	A2430408	0.28	1.14	1.20	A2430408S	0.25		
3/4"	1.33	2.00	A2430412	0.43	1.38	1.41	A2430412S	0.39		
1"	1.75	2.38	A2430416	0.88	1.50	1.74	A2430416S	0.71		
1 1/4"	2.25	2.62	A2430420	1.56	1.50	2.10	A2430420S	0.84		
1 1/2"	2.50	3.12	A2430424	2.15	1.50	2.36	A2430424S	1.10		
2"	3.00	3.38	A2430432	3.06	2.00	2.89	A2430432S	1.83		
2 1/2"	3.62	3.62	A2430440	4.76	2.00	3.54	A2430440S	2.44		
3"	4.25	4.25	A2430448	6.62	2.00	4.21	A2430448S	3.52		
4"	5.50	4.75	A2430464	14.50	2.25	5.30	A2440864S	5.58		

Plugs



Size	Square Head					Hex Head				
	A	B	MSI Item	Weight	A	B	MSI Item	Weight		
1/8"	0.63	0.28	A2450102	0.02	0.63	0.44	A2450302	0.03		
1/4"	0.69	0.38	A2450104	0.03	0.69	0.62	A2450304	0.05		
3/8"	0.81	0.44	A2450106	0.06	0.81	0.69	A2450306	0.09		
1/2"	0.94	0.56	A2450108	0.11	0.87	0.88	A2450308	0.16		
3/4"	1.06	0.62	A2450112	0.18	1.00	1.06	A2450312	0.27		
1"	1.25	0.81	A2450116	0.35	1.13	1.38	A2450316	0.48		
1 1/4"	1.37	0.94	A2450120	0.60	1.37	1.75	A2450320	0.95		
1 1/2"	1.43	1.12	A2450124	0.82	1.43	2.00	A2450324	1.32		
2"	1.57	1.31	A2450132	1.36	1.57	2.50	A2450332	2.23		
2 1/2"	1.81	1.50	A2450140	2.21	1.81	3.00	A2450340	3.81		
3"	1.93	1.69	A2450148	3.47	1.93	3.50	A2450348	4.75		
4"	2.25	2.50	A2450164	8.64	2.25	4.62	A2440864	13.00		

Forged Steel Hex Bushings



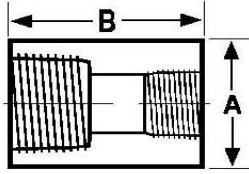
Size	A	B	MSI Item	Weight
1/4" x 1/8"	0.56	0.62	A244000402	0.02
3/8" x 1/8"	0.66	0.69	A244000602	0.04
3/8" x 1/4"	0.66	0.69	A244000604	0.04
1/2" x 1/8"	0.75	0.88	A244000802	0.06
1/2" x 1/4"	0.75	0.88	A244000804	0.06
1/2" x 3/8"	0.75	0.88	A244000806	0.06
3/4" x 1/8"	0.84	1.06	A244001202	0.11
3/4" x 1/4"	0.84	1.06	A244001204	0.11
3/4" x 3/8"	0.84	1.06	A244001206	0.11
3/4" x 1/2"	0.84	1.06	A244001208	0.11
1" x 1/8"	1.00	1.38	A244001602	0.19
1" x 1/4"	1.00	1.38	A244001604	0.19
1" x 3/8"	1.00	1.38	A244001606	0.19
1" x 1/2"	1.00	1.38	A244001608	0.19
1" x 3/4"	1.00	1.38	A244001612	0.19
1 1/4" x 1/4"	1.09	1.75	A244002004	0.39
1 1/4" x 3/8"	1.09	1.75	A244002006	0.39
1 1/4" x 1/2"	1.09	1.75	A244002008	0.39
1 1/4" x 3/4"	1.09	1.75	A244002012	0.39
1 1/4" x 1"	1.09	1.75	A244002016	0.39
1 1/2" x 1/4"	1.12	2.00	A244002404	0.63
1 1/2" x 3/8"	1.12	2.00	A244002406	0.63
1 1/2" x 1/2"	1.12	2.00	A244002408	0.63
1 1/2" x 3/4"	1.12	2.00	A244002412	0.63
1 1/2" x 1"	1.12	2.00	A244002416	0.63
1 1/2" x 1 1/4"	1.12	2.00	A244002420	0.63
2" x 3/8"	1.22	2.50	A244003206	0.79
2" x 1/2"	1.22	2.50	A244003208	0.79
2" x 3/4"	1.22	2.50	A244003212	0.79
2" x 1"	1.22	2.50	A244003216	0.79
2" x 1 1/4"	1.22	2.50	A244003220	0.79
2" x 1 1/2"	1.22	2.50	A244003224	0.79
2 1/2" x 1/2"	1.44	3.00	A244004008	1.19
2 1/2" x 3/4"	1.44	3.00	A244004012	1.19
2 1/2" x 1"	1.44	3.00	A244004016	1.19
2 1/2" x 1 1/4"	1.44	3.00	A244004020	1.19
2 1/2" x 1 1/2"	1.44	3.00	A244004024	1.19
2 1/2" x 2"	1.44	3.00	A244004032	1.19
3" x 1"	1.53	3.50	A244004816	2.56
3" x 1 1/4"	1.53	3.50	A244004820	2.56
3" x 1 1/2"	1.53	3.50	A244004824	2.56
3" x 2"	1.53	3.50	A244004832	2.56
3" x 2 1/2"	1.53	3.50	A244004840	2.56
4" x 1"	1.75	4.62	A244006416	7.06
4" x 1 1/4"	1.75	4.62	A244006420	7.06
4" x 1 1/2"	1.75	4.62	A244006424	7.06
4" x 2"	1.75	4.62	A244006432	7.06
4" x 2 1/2"	1.75	4.62	A244006440	7.06
4" x 3"	1.75	4.62	A244006448	7.06

3000# FORGED STEEL FITTINGS

Reducing Couplings

Threaded

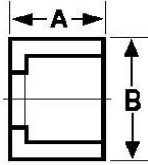
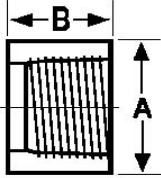
Socket Weld



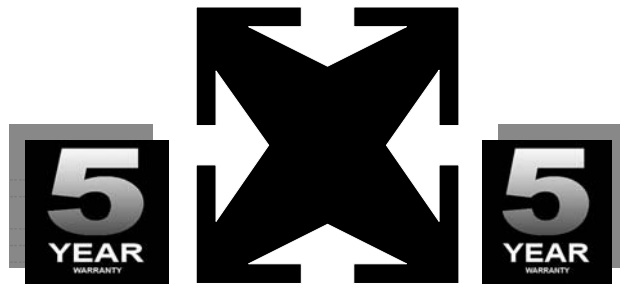
Size	A	B	MSI Item	Weight	A	B	MSI Item	Weight
1/4" x 1/8"	0.75	1.38	A243080402	0.11	N/A	N/A	A243080402S	N/A
3/8" x 1/8"	0.88	1.50	A243080602	0.16	N/A	N/A	A243080602S	N/A
3/8" x 1/4"	0.88	1.50	A243080604	0.16	N/A	N/A	A243080604S	N/A
1/2" x 1/8"	1.12	1.88	A243080802	0.32	N/A	N/A	A243080802S	N/A
1/2" x 1/4"	1.12	1.88	A243080804	0.32	1.14	1.23	A243080804S	0.28
1/2" x 3/8"	1.12	1.88	A243080806	0.32	1.14	1.23	A243080806S	0.27
3/4" x 1/8"	1.33	2.00	A243081202	0.50	1.38	1.46	A243081202S	0.43
3/4" x 1/4"	1.33	2.00	A243081204	0.50	1.38	1.46	A243081204S	0.42
3/4" x 3/8"	1.33	2.00	A243081206	0.50	1.38	1.46	A243081206S	0.41
3/4" x 1/2"	1.33	2.00	A243081208	0.50	1.38	1.46	A243081208S	0.40
1" x 1/4"	1.75	2.38	A243081604	0.98	1.50	1.78	A243081604S	0.79
1" x 3/8"	1.75	2.38	A243081606	0.98	1.50	1.78	A243081606S	0.77
1" x 1/2"	1.75	2.38	A243081608	0.98	1.50	1.78	A243081608S	0.75
1" x 3/4"	1.75	2.38	A243081612	0.98	1.50	1.78	A243081612S	0.73
1 1/4" x 3/8"	2.25	2.62	A243082006	1.87	N/A	N/A	A243082006S	N/A
1 1/4" x 1/2"	2.25	2.62	A243082008	1.87	1.50	2.16	A243082008S	0.90
1 1/4" x 3/4"	2.25	2.62	A243082012	1.87	1.50	2.16	A243082012S	0.88
1 1/4" x 1"	2.25	2.62	A243082016	1.87	1.50	2.16	A243082016S	0.86
1 1/2" x 3/8"	2.50	3.12	A243082406	2.41	1.50	2.42	A243082406S	1.30
1 1/2" x 1/2"	2.50	3.12	A243082408	2.41	1.50	2.42	A243082408S	1.28
1 1/2" x 3/4"	2.50	3.12	A243082412	2.41	1.50	2.42	A243082412S	1.25
1 1/2" x 1"	2.50	3.12	A243082416	2.41	1.50	2.42	A243082416S	1.20
1 1/2" x 1 1/4"	2.50	3.12	A243082420	2.41	1.50	2.42	A243082420S	1.15
2" x 1/2"	3.00	3.62	A243083208	3.71	2.00	2.96	A243083208S	2.00
2" x 3/4"	3.00	3.62	A243083212	3.71	2.00	2.96	A243083212S	1.95
2" x 1"	3.00	3.62	A243083216	3.71	2.00	2.96	A243083216S	1.91
2" x 1 1/4"	3.00	3.62	A243083220	3.71	2.00	2.96	A243083220S	1.88
2" x 1 1/2"	3.00	3.62	A243083224	3.71	2.00	2.96	A243083224S	1.85
2 1/2" x 1/2"	3.62	3.62	A243084008	5.92	2.00	3.70	A243084008S	2.75
2 1/2" x 3/4"	3.62	3.62	A243084012	5.92	2.00	3.70	A243084012S	2.70
2 1/2" x 1"	3.62	3.62	A243084016	5.92	2.00	3.70	A243084016S	2.65
2 1/2" x 1 1/4"	3.62	3.62	A243084020	5.92	2.00	3.70	A243084020S	2.60
2 1/2" x 1 1/2"	3.62	3.62	A243084024	5.92	2.00	3.70	A243084024S	2.55
2 1/2" x 2"	3.62	3.62	A243084032	5.92	2.00	3.70	A243084032S	2.50
3" x 1"	4.25	4.25	A243084816	10.10	2.00	4.30	A243084816S	3.80
3" x 1 1/4"	4.25	4.25	A243084820	10.10	2.00	4.30	A243084820S	3.75
3" x 1 1/2"	4.25	4.25	A243084824	10.10	2.00	4.30	A243084824S	3.70
3" x 2"	4.25	4.25	A243084832	10.10	2.00	4.30	A243084832S	3.65
3" x 2 1/2"	4.25	4.25	A243084840	10.10	2.00	4.30	A243084840S	3.60
4" x 1 1/2"	5.50	4.75	A243086424	14.70	2.25	5.39	A243086424S	6.00
4" x 2"	5.50	4.75	A243086432	14.70	2.25	5.39	A243086432S	5.90
4" x 2 1/2"	5.50	4.75	A243086440	14.70	2.25	5.39	A243086440S	5.80
4" x 3"	5.50	4.75	A243086448	14.70	2.25	5.39	A243086448S	5.70

3000# FORGED STEEL FITTINGS

Half Couplings



Half Couplings	Size	Threaded				Socket Weld			
		A	B	MSI Item	Weight	A	B	MSI Item	Weight
	1/8"	0.62	0.62	A2430602	0.06	N/A	N/A	A2430602S	N/A
	1/4"	0.75	0.69	A2430604	0.05	1.00	0.82	A2430604S	0.14
	3/8"	0.88	0.75	A2430606	0.06	1.07	0.98	A2430606S	0.18
	1/2"	1.12	0.94	A2430608	0.14	1.26	1.20	A2430608S	0.21
	3/4"	1.33	1.00	A2430612	0.21	1.44	1.41	A2430612S	0.33
	1"	1.75	1.17	A2430616	0.44	1.62	1.74	A2430616S	0.64
	1 1/4"	2.25	1.31	A2430620	0.77	1.69	2.10	A2430620S	0.96
	1 1/2"	2.50	1.56	A2430624	1.08	1.75	2.36	A2430624S	1.22
	2"	3.00	1.67	A2430632	1.48	2.24	2.89	A2430632S	2.10
	2 1/2"	3.62	1.81	A2430640	2.37	2.31	3.54	A2430640S	3.08
	3"	4.25	2.12	A2430648	3.30	2.37	4.21	A2430648S	4.29
	4"	5.50	2.37	A2430664	7.25	2.63	5.30	A2430664S	7.05



MSI 5 YEAR LIMITED WARRANTY

MSI warrants to its initial purchaser only, that its products which are delivered to the initial purchaser will be of the kind described in the order or price list and will be free of defects in workmanship or material for a period of (5) five years from the date of delivery to MSI's initial purchaser.

Should any failure to conform to this warranty appear within (5) five years after the date of the initial delivery to MSI's initial purchaser, MSI will, upon written notification thereof and substantiation that the goods have been stored, installed, maintained and operated in accordance with recognized engineering and piping practices and industry standards, correct such defects by suitable replacement of product at our expense upon return of the defective product to MSI.

This warranty applies only during normal use that meets the above referenced conditions of installation and operation and is absolutely void if the product has been damaged after purchase or if it has been misused, repaired, altered or modified in any manner whatsoever. MSI shall not warranty any of its products if any portion of the product including without limitation, any component, gasket, housing or bolt has been modified, altered, remanufactured or replaced in any manner by any customer, user of the product or third party.

Correction of non-conformities, in the manner and for the period of time provided above, shall constitute fulfillment of all liabilities of MSI to MSI's initial purchaser, with respect to the goods, whether based on contract, negligence, strict tort or otherwise. It is the intention of MSI that no warranty of any kind, whether expressed or implied shall pass through MSI's initial purchaser to any other person or corporation.

No returns will be permitted unless prior written permission of MSI is first obtained. Buyers shall be responsible for all costs of transportation as well as any applicable restocking fees.

This warranty is exclusively for the benefit of MSI's initial purchaser of the product from MSI and to the extent prohibited by applicable law, the foregoing warranty is in lieu of all other warranties, express or implied, including but not limited to warranties of fitness or merchantability.

LIMITATIONS OF LIABILITY

MSI shall not under any circumstances be liable for special or consequential damages such as, but not limited to, damage to loss of other property or equipment, loss of profits or revenue, cost of capital, cost of purchased or replacement goods, claims of customers of our initial purchaser, any labor cost or replacement of the product or damage caused by the product.

The remedies of MSI's initial purchaser and all others, set forth herein are exclusive and the liability of MSI with respect to same shall not, except as expressly provided herein, exceed the price of the MSI products on which such liability is based.