

Assy index	Part Name	Dwg	Used On	Type	Group	Quantity Required (for one lens)	Quantity to Order	Requisition Date	Est Cost (total)	Est Cost (each)	Actual Cost (total)	Actual Cost (each)	Order Date	Order #	Due Date	Delivery Date	Other processing?	Comments
1.0.0.0	Lens and Transformer Assembly	MD-413677	None	Assy		1	6		\$0	\$0	\$0	\$0						
1.1.0.0	Transformer Assembly (Ref.)	ME-170328	MD-413677	Assy		1	6		\$0	\$0	\$0	\$0						
1.2.0.0	10 mm H. G. Lithium Lens	MD-413621	MD-413677	Assy		1	6		\$0	\$0	\$0	\$0						Update dwg to reflect change in hot melt pressure transducer manufacturer
1.2.1.0	Stop Cock Seal	MB-169958	MD-413621	Mach Outside	2	2	24		\$1,080	\$45	\$0	\$0						
1.2.2.0	Stop Cock Valve	MB-375972	MD-413621	Mach Fermi		2	12		\$1,800	\$150	\$0	\$0						Machined with final lens body machining to match ports.
1.2.3.0	Stop Cock Set Screw	MB-375973	MD-413621	Mach Outside	2	2	14		\$280	\$20	\$0	\$0						
1.2.4.0	Stop Cock Plug	MB-375975	MD-413621	Mach Outside	2	2	14		\$140	\$10	\$0	\$0						
1.2.5.0	Dynisco M10 Gasket	MB-413389	MD-413621	Mach Outside	2	2	24		\$1,392	\$58	\$0	\$0						
1.2.6.0	Beryllium Window	MB-413539	MD-413621	Mach Outside	2	2	14		\$22,400	\$1,600	\$0	\$0						Long Lead Time Item
1.2.7.0	Dynisco M10 Vacuum Plug	MB-413596	MD-413621	Mach Fermi	2	2	0		\$0	\$16	\$0	\$0						Plugs used during assy. Already have one set?
1.2.8.0	10 mm Body (Machining Process 6)	MB-413609	MD-413621	Mach Fermi		1	6		\$9,000	\$1,500	\$0	\$0						Post-bond machining step; Currently undergoing revision; All mach process dwgs should be 1 dwg with multiple sheets?
1.2.8.0	10 mm Body (Machining Process 5)	MB-413608	MB-413609	Mach Fermi		1	6		\$42,000	\$7,000	\$0	\$0						Post-bond machining step; Currently undergoing revision; All mach process dwgs should be 1 dwg with multiple sheets?
1.2.8.0	10 mm Body (Machining Process 3 & 4)	MB-413607	MB-413608	Mach Fermi		1	6		\$3,000	\$500	\$0	\$0						Post-bond machining step; Currently undergoing revision; All mach process dwgs should be 1 dwg with multiple sheets?
1.2.8.0	10 mm Body (Machining Process 1 & 2)	MB-413606	MB-413607	Mach Fermi		1	6		\$6,000	\$1,000	\$0	\$0						Post-bond machining step; Currently undergoing revision; All mach process dwgs should be 1 dwg with multiple sheets?
1.2.8.0	Pre-Bonded Lens Assembly	MD-413574	MB-413606	Assy		1	6		\$20,400	\$3,400	\$0	\$0						Cost is for bonding at Refrac.
1.2.8.1	Ring 1 D.S.	MC-413564	MD-413574	Mach Outside	1	1	6		\$2,838	\$473	\$2,838	\$473	8/9/2006	570692				
1.2.8.2	Ring 2 D.S.	MC-413565	MD-413574	Mach Outside	1	1	6		\$2,838	\$473	\$2,838	\$473	8/9/2006	570692				
1.2.8.3	Ring 3	MC-413566	MD-413574	Mach Outside	1	2	12		\$5,676	\$473	\$5,676	\$473	8/9/2006	570692				
1.2.8.4	Ring 4	MC-413567	MD-413574	Mach Outside	1	2	12		\$5,676	\$473	\$5,676	\$473	8/9/2006	570692				
1.2.8.5	Ring 5	MC-413568	MD-413574	Mach Outside	1	2	12		\$5,676	\$473	\$5,676	\$473	8/9/2006	570692				
1.2.8.6	Ring 6	MC-413569	MD-413574	Mach Outside	1	1	6		\$2,838	\$473	\$2,838	\$473	8/9/2006	570692				
1.2.8.7	Ring 7	MC-413570	MD-413574	Mach Outside	1	1	6		\$2,838	\$473	\$2,838	\$473	8/9/2006	570692				
1.2.8.8	Ring 2 U.S.	MC-413571	MD-413574	Mach Outside	1	1	6		\$2,838	\$473	\$2,838	\$473	8/9/2006	570692				
1.2.8.9	Ring 1 D.S.	MC-413572	MD-413574	Mach Outside	1	1	6		\$2,838	\$473	\$2,838	\$473	8/9/2006	570692				
1.2.8.10	Dowel Pin	MB-413262	MD-413574	Mach Outside	1	20	120		\$120	\$1	\$120	\$1	8/9/2006	570692				Pins need to be coated (canadize at General magnaplate).
1.2.8.11	Alignment Fixture Rod	MB-413573	MD-413574	Mach Outside		1	0		\$0	\$150	\$0	\$0						Fixture for stacking. Already have 2 of these, but needs to be shortened.
1.2.8.12	Alignment Fixture Base	MB-413374	MD-413574	Mach Outside		1	0		\$0	\$80	\$0	\$0						Fixture for stacking. Already have 2 of these.
1.2.8.13	Alignment Fixture Top	MB-413375	MD-413574	Mach Outside		1	0		\$0	\$15	\$0	\$0						Fixture for stacking. Already have 2 of these.
1.2.8.14	1/4-20 x 1-1/4 lg SHCS SS	N/A	MD-413574	screw		1	0		\$0	\$1	\$0	\$0						Fixture screw. Have in stock.
1.2.8.15	Spring Washer Spec# 80500-025-S	N/A	MD-413574	purchase		3	0		\$0	\$1	\$0	\$0						Should already have these.
1.2.8.16	Stop Tube	??	MD-413574	Mach Fermi		1	6		\$1,500	\$250	\$0	\$0						RA-330 Tube. Need to customize length for each lens. Need new drawing??? Should add to BOM for 413574?
1.2.8.17	Ti 10V-2Fe-3Al material for rings	N/A	N/A	purchase		16	96		\$26,880	\$280	\$26,880	\$280	3/21/2006	568383				Material ordered from Timet. Cost is approximate per inch. Some left over material was also used.
1.2.9.0	Window Gasket	MB-413610	MD-413621	Mach Outside	2	2	16		\$1,440	\$90	\$0	\$0						
1.2.10.0	Downstream Window Flange	MB-413611	MD-413621	Mach Outside	2	1	6		\$3,120	\$520	\$0	\$0						
1.2.11.0	Upstream Window Flange	MB-413612	MD-413621	Mach Outside	2	1	6		\$3,120	\$520	\$0	\$0						
1.2.12.0	Body Spacer	MB-413613	MD-413621	Mach Outside	3	4	30		\$6,000	\$200	\$0	\$0						Must be ground to fit each lens.
1.2.13.0	Ceramic Washer	MB-413614	MD-413621	Mach Outside	3	8	56		\$4,760	\$85	\$0	\$0						
1.2.14.0	Stud Washer	MB-413615	MD-413621	Mach Outside	2	8	56		\$840	\$15	\$0	\$0						
1.2.15.0	Stud Ceramic Tube	MB-413616	MD-413621	Mach Outside	3	8	56		\$23,800	\$425	\$0	\$0						
1.2.16.0	Stud Insulated	MB-413618	MD-413621	Assy		8	56		\$0	\$0	\$0	\$0						Just assy to wrap stud with kapton
1.2.16.1	Stud Fatigue Shape	MB-413617	MD-413621	Mach Outside	2	8	56		\$6,720	\$120	\$0	\$0						
1.2.17.0	Spirallock Round Nut	MB-413619	MD-413621	Mach Outside	2	8	56		\$2,016	\$36	\$0	\$0						
1.2.18.0	Stud Tensioning Tools	MB-413620	MD-413621	Mach Outside		1	0		\$0	\$135	\$0	\$0						Already have tool set.
1.2.19.0	Dynisco Port Plug	MB-413390	MD-413621	Mach Fermi		2	12		\$240	\$20	\$0	\$0						Plugs are custom machined to fit ports.
1.2.20.0	Dynisco Pressure Transducer PT462E-M10	N/A	MD-413621	purchase	5	2	12		\$14,400	\$1,200	\$0	\$0						Already have some of these? Estimated Cost is guess. Now use Gefran?
1.2.21.0	SS Set Screw 5/16-18 x 1/4 lg	N/A	MD-413621	screw		2	12		\$3	\$0	\$0	\$0						Should have stock
1.2.22.0	Thermocouple Omega #6EA-SICSS-04OU-36RP	N/A	MD-413622	purchase	5	2	14		\$630	\$45	\$0	\$0						Change to longer length? Cost is complete guess.
1.3.0.0	Water Tube Clamp Bar	MB-413011	MD-413677	Mach Outside	4	1	6		\$7,200	\$1,200	\$0	\$0						
1.4.0.0	Screw Insulator	MB-413012	MD-413677	Mach Outside	4	2	12		\$1,680	\$140	\$0	\$0						
1.5.0.0	Water Tube Clamp End	MB-413016	MD-413677	Mach Outside	2	2	12		\$600	\$50	\$0	\$0						
1.6.0.0	Water Tube Clamp D.S.	MB-413671	MD-413677	Mach Outside	2	1	6		\$3,600	\$600	\$0	\$0						
1.7.0.0	Water Tube Clamp U.S.	MB-413672	MD-413677	Mach Outside	2	1	6		\$5,400	\$900	\$0	\$0						
1.8.0.0	Water Tube D.S.	MB-413673	MD-413677	Mach Fermi	5	1	6		\$300	\$50	\$0	\$0						
1.9.0.0	Water Tube U.S.	MB-413674	MD-413677	Mach Fermi	5	1	6		\$300	\$50	\$0	\$0						
1.10.0.0	Water Tube Torlon Sleeve D.S.	MB-413675	MD-413677	Mach Outside	4	1	6		\$780	\$130	\$0	\$0						
1.11.0.0	Water Tube Torlon Sleeve U.S.	MB-413675	MD-413677	Mach Outside	4	1	6		\$780	\$130	\$0	\$0						
1.12.0.0	Water Connection	MB-413676	MD-413677	Assy	5	2	12		\$600	\$50	\$0	\$0						Some machining and welding cost added in here.
1.12.1.0	Swagelok 6LV-4-HVCR-3S-6TB7	N/A	MB-413676	purchase	5	2	12		\$240	\$20	\$0	\$0						Complete guess on costs
1.12.2.0	Swagelok SS-4-HVCR-4SR	N/A	MB-413676	purchase	5	2	12		\$360	\$30	\$0	\$0						Complete guess on costs
1.12.3.0	Swagelok 6LV-6MW-9	N/A	MB-413676	purchase	5	2	12		\$180	\$15	\$0	\$0						Complete guess on costs
1.13.0.0	1/4-20 x 3/8 lg. SHCS SS	N/A	MB-413676	screw	5	4	24		\$7	\$0	\$0	\$0						Should have.
1.14.0.0	#8-32 x 7/8 lg. SHCS SS	N/A	MB-413676	screw	5	4	24		\$6	\$0	\$0	\$0						Should have.
1.15.0.0	3/8-16 x 1 lg. BHCS SS	N/A	MB-413676	screw	5	2	12		\$3	\$0	\$0	\$0						Should have.
1.16.0.0	Swagelok Nickel Gasket NI-4-VCR-2-GR	N/A	MB-413676	purchase	5	2	12		\$48	\$4	\$0	\$0						Complete guess on costs

\$259,221  
Average cost per  
\$43,204 lens.

Group  
s  
Pre-bonded  
1 Ti parts  
Misc Nickel,  
2 Ti, SS parts  
Ceramic  
3 Parts  
4 Torlon parts  
5 Assembly