

OPERATING CONDITIONS

NORMAL	28,700 HP [21,401 kW] @ 4,670 RPM
MIN/MAX CONTINUOUS SPEED	3,269/4,903 RPM
TRIP SPEED	5,393 RPM
NORMAL TORQUE	387,327 IN-LB [43,760 N-m]
SELECTION TORQUE (INCLUDES 1.50 S.F.)	580,991 IN-LB [65,640 N-m]
COUPLING RATING	
MAX CONTINUOUS TORQUE	590,000 IN-LB [66,658 N-m]
PEAK TORQUE	785,000 IN-LB [88,689 N-m]
MAX MOMENTARY TORQUE	1,040,000 IN-LB [117,499 N-m]

RIGID/SHAFT INFORMATION		
	DRIVING	DRIVEN
TORQUE CAPACITY (BASED ON MU = 0.15)	1,144,300 IN-LB [129,283 N-m]	1,388,300 IN-LB [156,850 N-m]
REQUIRED MOUNT AND DISMOUNT PRESSURE	25,600 PSI [176,512 kPa]	25,500 PSI [175,822 kPa]
MAX ALLOWABLE ASSEMBLY PRESSURE	35,300 PSI [243,393 kPa]	35,300 PSI [243,393 kPa]

MASS ELASTIC DATA

COMPONENT WEIGHT

RIGID (BORED)	77 LB [34.9 kg]
GUARD	11.5 LB [5.2 kg]
DIAPHRAGM	19 LB [8.6 kg]
SPACER	107 LB [48.6 kg]

DRIVING

DRIVEN

77 LB [34.9 kg]	91 LB [41.3 kg]
11.5 LB [5.2 kg]	11.5 LB [5.2 kg]
19 LB [8.6 kg]	19 LB [8.6 kg]
107 LB [48.6 kg]	

TOTAL COUPLING WEIGHT (BORED) -----

336 LB [152.4 kg]

MOMENT OF INERTIA (WR²)

4.500 LB-IN² [1.31kg-m²]

TORSIONAL STIFFNESS

10.6 X 10⁶ IN-LB/RAD
(BASED ON 1/3 SHAFT PENETRATION)
[1.20 X 10⁶ N-m/RAD]

AXIAL STIFFNESS

55,800 LB/IN (TOTAL COUPLING)[9,772 N/mm]

DIAPHRAGM ANGULAR STIFFNESS

14,600 IN-LB/DEG (PER END) [1,649 N-m/DEG]

LATERAL CRITICAL SPEED

21,700 RPM

MISALIGNMENT CAPACITY

ANGULAR 0.20 DEG/END AXIAL ±0.085 IN/COUPLING [2.16]

MAX CONTINUOUS

DIAPHRAGM @ TO @ DISTANCE 38.1 [968]

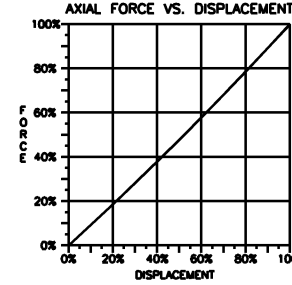
MAX CONTINUOUS PARALLEL OFFSET = 0.133 [3.38] IN ANY DIRECTION

PRODUCTION DRAWINGS	
DRAWING NO.	DESCRIPTION
CB86734	DIAPH RM
1100791	DIAPH SF
1116337	SHIM PACK

LIST OF MATERIAL AND DRAWINGS FOR ONE COUPLING

QTY	PART NO.	PART DESCRIPTION	MATERIAL	SEC NO.
1	1130236	RIGID, DRIVING	AISI 4340 HT	1
1	1130237	RIGID, DRIVEN	AISI 4340 HT	2
2	1100793	DIAPHRAGM	STAINLESS STEEL	3
2	1108087	GUARD	AISI 4140 HT	4
1	1130238	SPACER	AISI 4140 HT	5
44	WA82276	1/2-20 NF x 1.88 CAPS	ALLOY STEEL	6
44	WA82244	1/2-20 NF LOCKNUT	STEEL	7
80	WA82271	5/16-24 NF x 1.30 CAPS	ALLOY STEEL	8
80	WA26052	5/16-24 NF LOCKNUT	STEEL	9
2	1103873	0.130 SHIM PACK	STEEL	10
12	WA04566	1/4-20 NC x 0.75 SHCS	ALLOY STEEL	11
12	WA25955	1/4-20 NC x 1.00 S.S.	ALLOY STEEL	12

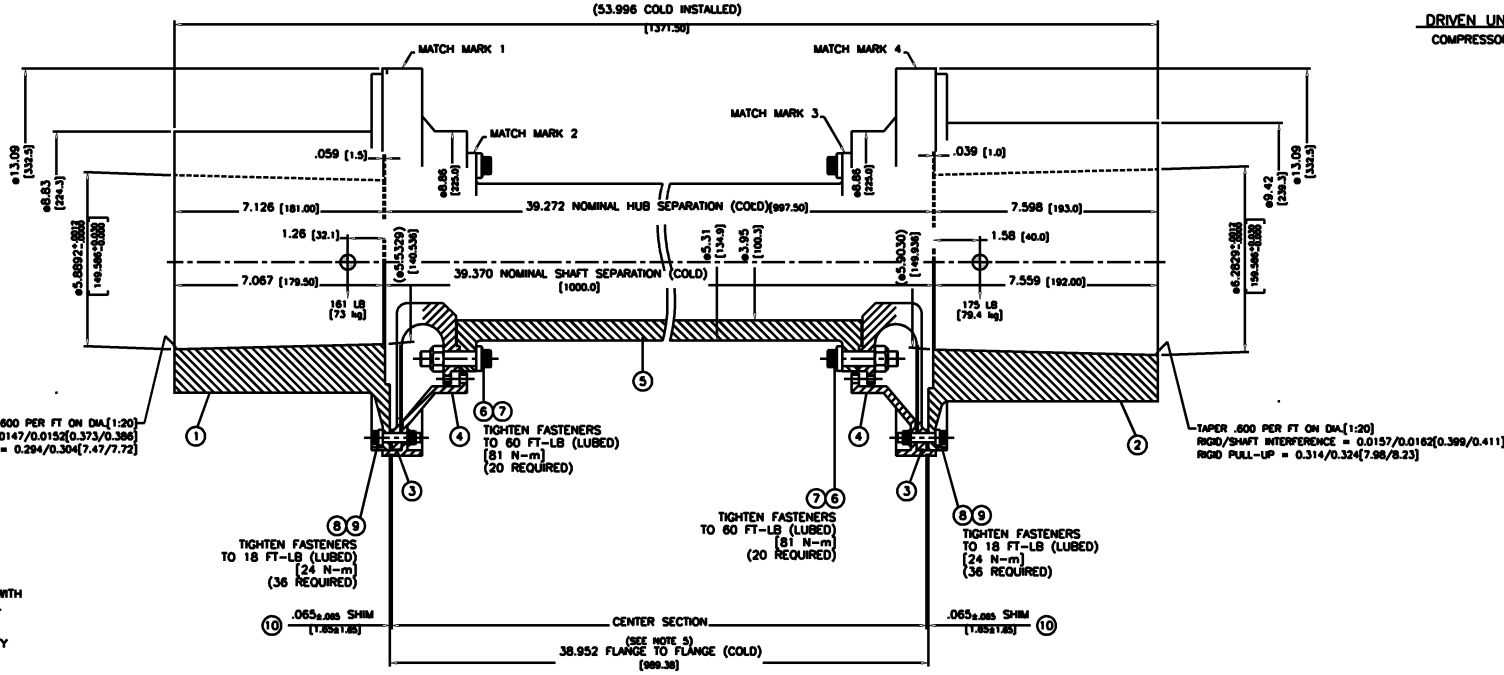
□ - QUANTITY INCLUDES AN ADDITIONAL 10%
 * - INDICATES 'SHIPPING SCREWS' NOT SHOWN.
 'SHIPPING SCREWS' - YELLOW COLLAPSING CAPSCREWS
 RED LOCKING SETSCREWS
 NOTE: ALL 'SHIPPING SCREWS' MUST BE REMOVED BEFORE START-UP.
 (SEE INSTALLATION INSTRUCTION 13-402)



AXIAL DISPLACEMENT		FORCE	
±(IN)	±(MM)	(LB)	(N)
0.085	2.16	100	4,870
0.043	1.08	50	2,390
0.009	0.22	10	470
0.000	0.00	0	0

DRIVING UNIT GEARBOX

DRIVEN UNIT COMPRESSOR



NOTES:

1. COUPLING IS DESIGNED IN ACCORDANCE WITH API 671, WITH STANDARD EXCEPTIONS PER KOP-FLEX FORM #16-1000.
2. COUPLING TO BE DYNAMICALLY BALANCED PER API 671. (COMPONENT AND ASSEMBLY BALANCE WITH REPEATABILITY AND RESIDUAL UNBALANCE CHECK)
3. ⊕ INDICATES EFFECTIVE CENTER OF GRAVITY OF HALF COUPLING.
4. ALL MAJOR SEPARABLE PARTS TO BE SERIALIZED AND MATCH-MARKED.
5. CENTER SECTION IS DESIGNED TO STRETCH FLEXIBLE ELEMENTS AT INSTALLATION. NOMINAL CENTER SECTION FREE LENGTH (UNSTRETCHED) = 38.702 [983.03] SHIM AS REQUIRED TO OBTAIN PRESTRETCH VALUE OF 0.120 [3.05] AXIAL GROWTH (0.138 [3.50]) - PRESTRETCH (0.120 [3.05]) = RUNNING COMPRESSED (0.018 [.46])
6. FIELD BALANCE HOLES SUPPLIED IN RIGID FLANGES

REV		DATE	CHK	APP	BY	DATE	CHK	APP
1	EDM07-1032; ADDED AXIAL FORCE VS. DISPLACEMENT CURVE & TABLE.				JCU	6/29/07		
2					TPO	6/29/07		

ISO 9001 CERTIFIED

#3.0 MSX DIAPHRAGM COUPLING GENERAL ARRANGEMENT

1130233