

# ECO GEARCHEM®

Serial NO.

Model NO.

**PULSAFEEDER®**  
ENGINEERED PRODUCTS  
2883 Brighton Henrietta Town Line Rd.  
Rochester, New York 14623



ECO Structure

	2	3	4	5	6	7	8	9 (OPT'L)
G								
GA, GC, GH	-							

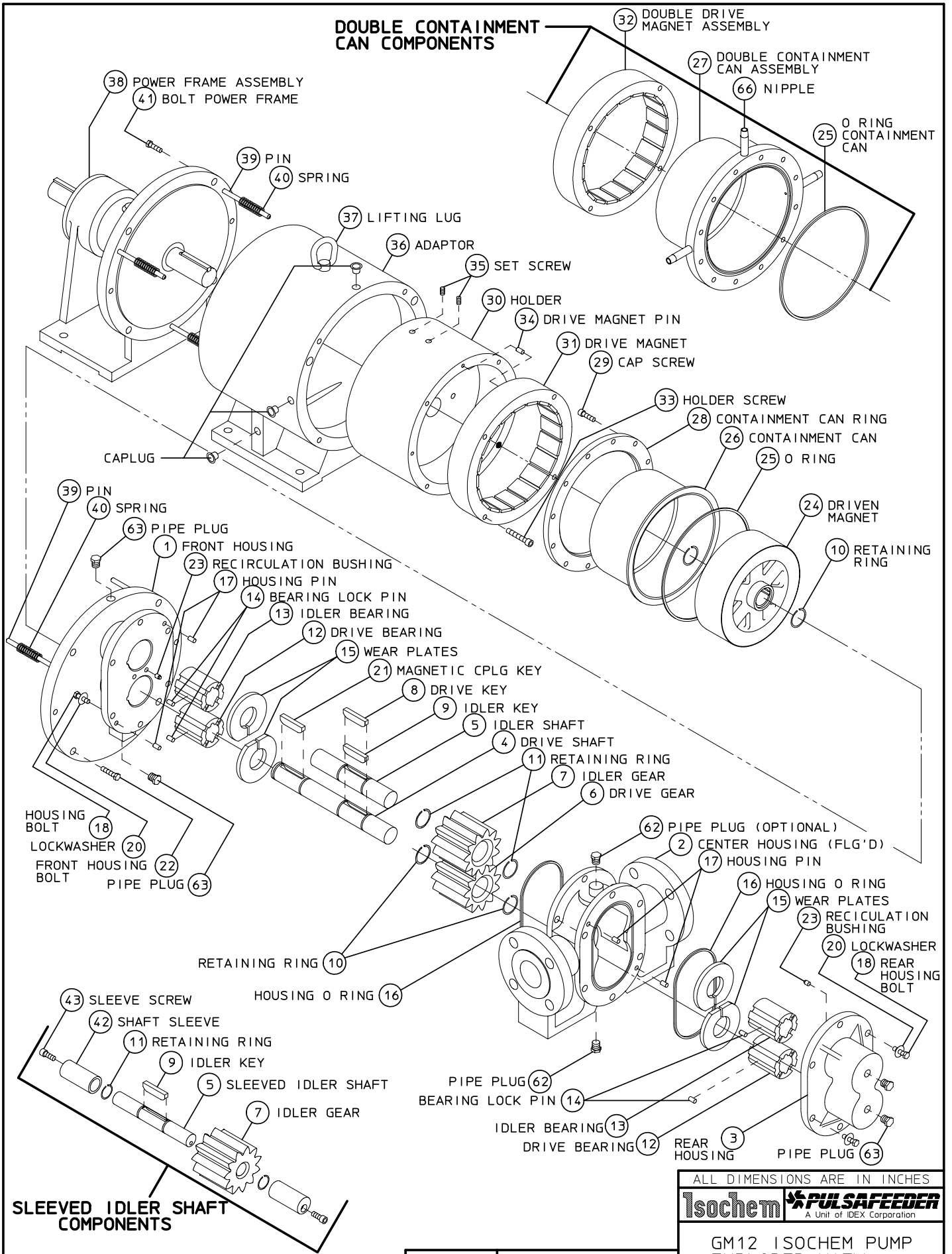
ECO Selection Guide

Position 1 Gearchem External Spur Gear Pump										
G	=	Original Version, Foot Mounted Only	2,4,6,8							
GA	=	Mechanical Seal, Foot Mounted Only	2,4,6,8,12,16							
GC	=	Mechanical Seal, C-Face Motor Mounting Assembly	2,4,6,8							
GH	=	Higher Pressure Model, Foot Mounting Only	6,8							
Position 2 Pump Size			2	4	6	8	H6	H8	12	16
Port size			0.25"	0.50"	0.75"	1.00"	0.75"	1.00"	1.50"	2.00"
Capacity (gpm max)			1.5	3	10	20	10	20	26	55
Differential Pressure (psi max)			100	100	100	50	200	100	100	100
Position 3 Available Pump Metallurgies and Type port Connection										
A	=	316SS	FNPT	X	X	X	X	X	X	X
C	=	Alloy C	FNPT	X	X	X	X	X	X	
D	=	Alloy 20	FNPT	X	X	X	X	X	X	

K	=	316SS	FBSPT	X	X	X	X	X	X	X	
M	=	Alloy C	FBSPT	X	X	X	X	X	X		
N	=	Alloy 20	FBSPT	X	X	X	X	X	X		
S	=	316SS	TRI-CLAMP	X	X	X	X				
U	=	316SS	FLANGED	X	X	X	X	X	X	X	X
V	=	Alloy C	FLANGED	X	X	X	X	X	X		
W	=	Alloy 20	FLANGED	X	X	X	X	X	X		
Position 4 Drive Gear Material											
A	=	316SS		X	X	X	X	X	X	X	X
C	=	Alloy C		X	X	X	X	X	X	X	X
D	=	Alloy 20		X	X	X	X				
T	=	TFE (Glass-filled) (1)		X	X	X	X				
E	=	PEEK (1)		X	X	X	X				
Position 5 Idler Gear Material											
A	=	316SS		X	X	X	X	X	X	X	X
C	=	Alloy C (2)		X	X	X	X	X	X	X	X
D	=	Alloy 20 (2)		X	X	X	X				
T	=	TFE (Glass-filled)		X	X	X	X				
E	=	PEEK		X	X	X	X				
K	=	Carbon		X	X	X	X				
Position 6 Wear Plate Material											
K	=	Carbon		X	X	X	X	X	X	X	X
T	=	TFE (Glass-filled)		X	X	X	X	X	X	X	X
Z	=	Ceramic (3)		X	X	X	X	X	X	X	X
E	=	PEEK		X	X	X	X	X	X	X	X
Position 7 Shaft and Bearing Material											
K	=			X	X	X	X	X	X	X	X
T	=			X	X	X	X		X	X	X
L	=			X	X	X	X	X	X	X	X
C	=			X	X	X	X	X	X	X	X
4	=									X	X
Position 8 Seal Arrangement				G2-4	GA/GC /2-4	G 6-8	GA/ GC 6-8	GH 6	GH 8	GA 12-16	
B	=	TFE Rings		X		X					

G	=	Grafoil® Rings	X		X					
J	=	Viton® Lip Seal H-C Spring (4)	X		X					
N	=	TFE Rings/Lantern	X		X		X	X		
R	=	Grafoil® /Lantern	X		X		X	X		
MECHANICAL SEALS BELLOWS (5)										
A	=	Single Seal: Carbon Rotary /Viton®, Ceramic Seat/Viton®		X		X				
C	=	Double Seal: Carbon Rotary/Viton®, Ceramic Seat/Viton®(6)		X		X				
P	=	Single Seal: Siliconized Rotary/EPR, Siliconized CBD Seat/TFE		X		X				
WEDGE										
Q	=	Single Seal: Teflon Rotary/TFE, Silicon CBD Seat/TFE		X		X	X	X		
U	=	Single Seal: Carbon Rotary/TFE, Silicon CBD Seat/TFE		X		X	X	X	X	
Position 9 Options: Consult your local distributor to meet your special requirements.										

# DOUBLE CONTAINMENT CAN COMPONENTS



ALL DIMENSIONS ARE IN INCHES

**Isochem** **PULSAFEEDER**  
A Unit of IDEX Corporation

GM12 ISOICHEM PUMP  
EXPLODED VIEW

SECTION/PAGE	MODEL GM12/400	DWN BY:	CLA
EFFECTIVE	11/21/11	DATE:	04/04/94
SUPERSEDES	04/04/94		SD-2777

REF	REMOVED ITEM 19 (NUT)	11/21/11
	REVISION UPDATE	DATE

ITEM CLASS GM12 = IZ  
 PRODUCT LINE = H / ISOICHEM

## ISOICHEM GM12 SERIES PUMP CONSOLIDATED B / M

SECTION: MODEL GM12  
 PAGE: 200  
 DATE REV.: 11 / 12 / 12  
 SUPERSEDES: 11 / 21 / 11

STRUCTURED WITH NO DASHES  
 EXAMPLE: GM12XXXXXX

STANDARD PUMP MATERIAL							
316 SS (A, K, OR U)		ALLOY C (C, M, OR V)		ALLOY 20 (D, N, OR W)			
PART NUMBER	MATERIAL	PART NUMBER	MATERIAL	PART NUMBER	MATERIAL	PART NUMBER	MATERIAL

DESCRIPTION	QTY	PART NUMBER	MATERIAL	PART NUMBER	MATERIAL	PART NUMBER	MATERIAL	ITEM
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**POSITION 3 STANDARD PUMP - NON-VARIABLE COMPONENTS**

HOUSING, FRONT	1	99609	316 SS	99610	ALLOY C	99611	ALLOY 20	1
HOUSING, CENTER FNPT	1	90001	316 SS	90006	ALLOY C	90005	ALLOY 20	2
HOUSING, CENTER FBSPT	1	90012	316 SS	90013	ALLOY C	90014	ALLOY 20	2
HOUSING, CENTER 1.50-150# FLG	1	90003	316 SS	90007	ALLOY C	90010	ALLOY 20	2
HOUSING, REAR	1	90201	316 SS	90205	ALLOY C	90204	ALLOY 20	3
# RING, RETAINING 1"	4-6	96702	316 SS	96708	ALLOY C	96708	ALLOY C	10
# RING, RETAINING 3 / 4"	0-2	96701	316 SS	96709	ALLOY C	96709	ALLOY C	11
# KEY, DRIVE GEAR 1"	*1	91904	316 SS	91910	ALLOY C	91910	ALLOY C	8, 9
# KEY, MTL IDLER GEAR 1"	*0-1	91904	316 SS	91910	ALLOY C	91910	ALLOY C	9
# KEY, CBN IDLER GEAR 3 / 4"	0-2	91925	316 SS	91926	ALLOY C	91926	ALLOY C	9
# KEY, PLASTIC IDLER GEAR 3 / 4"	0-2	91901	316 SS	91912	ALLOY C	91912	ALLOY C	9
# KEY, MAGNETIC CPLG - DRIVEN	*1	91904	316 SS	91910	ALLOY C	91910	ALLOY C	21
# PIN, BEARING LOCK	*4	90801	316 SS	90803	ALLOY C	90803	ALLOY C	14
# BUSHING, RECIRCULATION (.000)	1	99618-00	TFE	99618-00	TFE	99618-00	TFE	23
# O-RING, HOUSING	2	91101	TFE	91101	TFE	91101	TFE	16
PIN, HOUSING	*4	90801	316 SS	90801	316 SS	90801	316 SS	17
BOLT, CENTER HOUSING (ALL)	12	W770412-188	188 SS	W770412-188	188 SS	W770412-188	188 SS	18
LOCKWASHER, HOUSING	12	W771107-188	188 SS	W771107-188	188 SS	W771107-188	188 SS	20
PLUG, 1 / 8" NPT	**1	W772565-316	316 SS	52301	ALLOY C	52300	ALLOY 20	62
PLUG, 1 / 4" NPT	4	16415	316 SS	16422	ALLOY C	16432	ALLOY 20	63
NAMEPLATE	1	41210	188 SS	41210	188 SS	41210	188 SS	--

**POSITION 9, 10, AND 11 OPTIONS - DELETE CORRESPONDING STANDARD PUMP COMPONENT FROM B / M**

V	HOUSING, CENTER - VENT FNPT	1	90001-2	316 SS	90006-2	ALLOY C	90005-2	ALLOY 20	2
	HOUSING, CENTER - VENT FBSPT		90012-2	316 SS	90013-2	ALLOY C	90014-2	ALLOY 20	2
	HOUSING, CENTER - VENT FLGD		90003-2	316 SS	90007-2	ALLOY C	90010-2	ALLOY 20	2
	PLUG, 1 / 8" NPT		*1	W772565-316	316 SS	52301	ALLOY C	52300	ALLOY 20
B	# O-RING, HOUSING	2	91106	SS / PFA	91106	SS / PFA	91106	SS / PFA	16
	# O-RING, CONTAINMENT CAN	1-2	W212172-001	SS / PFA	W212172-001	SS / PFA	W212172-001	SS / PFA	25
R	HOUSING, REAR - RECIRCULATION	1	90201-3	316 SS	90205-3	ALLOY C	90204-3	ALLOY 20	3
	# BUSHING, RECIRCULATION (.060)	2	99618-06	TFE	99618-06	TFE	99618-06	TFE	23
	# WEAR PLATE, RECIRCULATION	4	90516	CARBON	90516	CARBON	90516	CARBON	15
	# WEAR PLATE, RECIRCULATION		90517	TFE (GF)	90517	TFE (GF)	90517	TFE (GF)	15
	# WEAR PLATE, RECIRCULATION		90518	CERAMIC	90518	CERAMIC	90518	CERAMIC	15
# WEAR PLATE, RECIRCULATION	90519		PEEK	90519	PEEK	90519	PEEK	15	
W	DRIVEN MAGNET ASSY (WELDED)	1	99663	316 SS	99664	ALLOY C	99665	ALLOY 20	24
HF	# DRIVE SHAFT	1	90367	316 SS	-----	-----	-----	-----	--
	IDLER SHAFT ASSEMBLY	1	-----	-----	-----	-----	-----	-----	--
	SHAFT, SLEEVED IDLER 3/4"		90397	316 SS	-----	-----	-----	-----	--
	# SLEEVE SHAFT 1"	2	90391	316 SS	-----	-----	-----	-----	--
	# SCREW, SLEEVE	2	W770021-316	316 SS	-----	-----	-----	-----	--
	# GEAR, IDLER 3/4"	1	90677	PEEK	-----	-----	-----	-----	--
# BEARING, SLTD DRV / IDL SHAFT	4	90437	EWCBN	-----	-----	-----	-----	--	

\*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B / M  
 \*\*QTY (2) WHEN PUMP HAS FNPT OR FBSPT CENTER HOUSING;  
 COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B/M  
 # DENOTES RECOMMENDED SPARE PART

DWG: GM12P200

# ISOCHEM GM12 SERIES PUMP CONSOLIDATED B / M

SECTION: MODEL GM12  
PAGE: 201  
DATE REV.: 11 / 12 / 12  
SUPERSEDES: 11 / 12 / 04

STANDARD PUMP MATERIAL		
316 SS (A, K, OR U)	ALLOY C (C, M, OR V)	ALLOY 20 (D, N, OR W)

DESCRIPTION	QTY	PART NUMBER	MATERIAL	PART NUMBER	MATERIAL	PART NUMBER	MATERIAL	ITEM
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**POSITION 4 & 5 DRIVE AND IDLER GEAR MATERIAL**

A	# GEAR, DRIVE/IDLER	1"	1-2	90679	316 SS	-----	-----	-----	-----	6, 7
C	# GEAR, DRIVE/IDLER	1"	1-2	90627	ALLOY C	90627	ALLOY C	90627	ALLOY C	6, 7
K	# GEAR, IDLER	3/4"	0-1	90664	CARBON	90664	CARBON	90664	CARBON	7
T	# GEAR, IDLER	3/4"		90682	TFE (GF)	90682	TFE (GF)	90682	TFE (GF)	7
E	# GEAR, IDLER	3/4"		90677	PEEK	90677	PEEK	90677	PEEK	7

**POSITION 6 WEAR PLATE MATERIAL**

K	# WEAR PLATE, SLOTTED		4	90503	CARBON	90503	CARBON	90503	CARBON	15
T	# WEAR PLATE, SLOTTED			90510	TFE (GF)	90510	TFE (GF)	90510	TFE (GF)	15
Z	# WEAR PLATE, SLOTTED			90512	CERAMIC	90512	CERAMIC	90512	CERAMIC	15
E	# WEAR PLATE, SLOTTED			90515	PEEK	90515	PEEK	90515	PEEK	15

**POSITION 7 SHAFT AND BEARING MATERIAL**

STANDARD CONSTRUCTION										
L	# BEARING, DRIVE/IDLER SHAF	1"	4	90437	EWCBN	90437	EWCBN	90437	EWCBN	12, 13
	# SHAFT, DRIVE		1	90367	316 SS	90368	ALLOY C	90369	ALLOY 20	4
	# SHAFT, IDLER (METAL GEAR)	1"	1	90308	316 SS	90318	ALLOY C	90364	ALLOY 20	5
	IDLER SHAFT ASSEMBLY	3/4"		-----	-----	-----	-----	-----	-----	--
	SHAFT, SLEEVED IDLER		1	90397	316 SS	90398	ALLOY C	90399	ALLOY 20	5
	SHAFT, SLEEVED IDLER (CBN GR)		1	99669	316 SS	99670	ALLOY C	99671	ALLOY 20	5
	# SLEEVE, SHAFT	1"	2	90391	316 SS	90392	ALLOY C	90393	ALLOY 20	42
# SCREW, SLEEVE		2	W770021-316	316 SS	W770021-HC0	ALLOY C	W770021-020	ALLOY 20	43	
T	# BEARING, DRIVE/IDLER SHAFT	1"	4	90428	TFE (GF)	90428	TFE (GF)	90428	TFE (GF)	12, 13
	# SHAFT, DRIVE		1	90367	316 SS	90368	ALLOY C	90369	ALLOY 20	4
	# SHAFT, IDLER (METAL GEAR)	1"	1	90308	316 SS	90318	ALLOY C	90364	ALLOY 20	5
	IDLER SHAFT ASSEMBLY	3/4"		-----	-----	-----	-----	-----	-----	--
	SHAFT, SLEEVED IDLER		1	90397	316 SS	90398	ALLOY C	90399	ALLOY 20	5
	SHAFT, SLEEVED IDLER (CBN GR)		1	99669	316 SS	99670	ALLOY C	99671	ALLOY 20	5
	# SLEEVE, SHAFT	1"	2	90391	316 SS	90392	ALLOY C	90393	ALLOY 20	42
# SCREW, SLEEVE		2	W770021-316	316 SS	W770021-HC0	ALLOY C	W770021-020	ALLOY 20	43	
4	# BEARING, SLTD DRV/IDL SHAFT	1"	4	90441	EWCBN	90441	EWCBN	90441	EWCBN	12, 13
	# SHAFT, DRIVE		1	90367	316 SS	90368	ALLOY C	90369	ALLOY 20	4
	# SHAFT, IDLER (METAL GEAR)	1"	1	90308	316 SS	90318	ALLOY C	90364	ALLOY 20	5
	IDLER SHAFT ASSEMBLY	3/4"		-----	-----	-----	-----	-----	-----	--
	SHAFT, SLEEVED IDLER		1	90397	316 SS	90398	ALLOY C	90399	ALLOY 20	5
	SHAFT, SLEEVED IDLER (CBN GR)		1	99669	316 SS	99670	ALLOY C	99671	ALLOY 20	5
	# SLEEVE, SHAFT	1"	2	90391	316 SS	90392	ALLOY C	90393	ALLOY 20	42
# SCREW, SLEEVE		2	W770021-316	316 SS	W770021-HC0	ALLOY C	W770021-020	ALLOY 20	43	

**EXTENDED/WEAR - BOTH SHAFTS**

C	# BEARING, DRIVE/IDLER SHAFT	1"	4	90437	EWCBN	90437	EWCBN	90437	EWCBN	12, 13
	# SHAFT, DRIVE		1	90370	CW / 316 SS	90371	CW / ALY C	90372	CW / ALY20	4
	# SHAFT, IDLER (METAL GEAR)	1"	1	90373	CW / 316 SS	90374	CW / ALY C	90375	CW / ALY20	5
	IDLER SHAFT ASSEMBLY	3/4"		-----	-----	-----	-----	-----	-----	--
	SHAFT, SLEEVED IDLER		1	90397	316 SS	90398	ALLOY C	90399	ALLOY 20	5
	SHAFT, SLEEVED IDLER (CBN GR)		1	99669	316 SS	99670	ALLOY C	99671	ALLOY 20	5
	# SLEEVE, SHAFT	1"	2	90394	CW / 316 SS	90395	CW / ALY C	90396	CW / ALY20	42
# SCREW, SLEEVE		2	W770021-316	316 SS	W770021-HC0	ALLOY C	W770021-020	ALLOY 20	43	

**CORROSION/WEAR ("CW") - BOTH SHAFTS**

B	# BEARING, DRIVE/IDLER SHAFT	1"	4	90439	SICBD	90439	SICBD	90439	SICBD	12, 13
	# SHAFT, DRIVE		1	90370	CW / 316 SS	90371	CW / ALY C	90372	CW / ALY20	4
	# SHAFT, IDLER (METAL GEAR)	1"	1	90373	CW / 316 SS	90374	CW / ALY C	90375	CW / ALY20	5
	IDLER SHAFT ASSEMBLY	3/4"		-----	-----	-----	-----	-----	-----	--
	SHAFT, SLEEVED IDLER		1	90397	316 SS	90398	ALLOY C	90399	ALLOY 20	5
	SHAFT, SLEEVED IDLER (CBN GR)		1	99669	316 SS	99670	ALLOY C	99671	ALLOY 20	5
	# SLEEVE, SHAFT	1"	2	90394	CW / 316 SS	90395	CW / ALY C	90396	CW / ALY20	42
# SCREW, SLEEVE		2	W770021-316	316 SS	W770021-HC0	ALLOY C	W770021-020	ALLOY 20	43	

\*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B / M  
# DENOTES RECOMMENDED SPARE PART

# ISOCHEM GM12 SERIES PUMP CONSOLIDATED B / M

SECTION: MODEL GM12  
PAGE: 202  
DATE REV: 11 / 12 / 12  
SUPERSEDES: 04 / 01 / 98

		STANDARD PUMP MATERIAL							
		316 SS (A, K, OR U)		ALLOY C (C, M, OR V)		ALLOY 20 (D, N, OR W)			
DESCRIPTION	QTY	PART NUMBER	MATERIAL	PART NUMBER	MATERIAL	PART NUMBER	MATERIAL	ITEM	

**POSITION 8 MAGNETIC COUPLING COMPONENTS**

COMMON PARTS	DRIVEN MAGNET ASSY	1	99626	316 SS	99627	ALLOY C	99628	ALLOY 20	24
	BOLT, FRONT HOUSING/ADAPTOR	*4	W770426-188	188 SS	W770426-188	188 SS	W770426-188	188 SS	22
	# O-RING, CONTAINMENT CAN	*1	W212172-TFE	TFE	W212172-TFE	TFE	W212172-TFE	TFE	25
	SCREW, SET	2	W771004-030	STL	W771004-030	STL	W771004-030	STL	35
	PIN, DRIVE MAGNET/HOLDER	4	W771209-003	STL	W771209-003	STL	W771209-003	STL	34
	SCREW, SKHD DRIVE MAGNET/HOLDER	4	W770027-188	188 SS	W770027-188	188 SS	W770027-188	188 SS	33
	CAN, CONTAINMENT	1	99600	ALLOY C	99600	ALLOY C	99600	ALLOY C	26
	SCREW, CONTAINMENT CAN RING	12	W770021-188	188 SS	W770021-188	188 SS	W770021-188	188 SS	29
	HOLDER, DRIVE MAGNET	1	99640	STL	99640	STL	99640	STL	30
	ADAPTOR, POWERFRAME	1	99619	ALU	99619	ALU	99619	ALU	36
	LUG, LIFTING	1	W212304-STL	STL	W212304-STL	STL	W212304-STL	STL	37
	PIN	6	99641	188 SS	99641	188 SS	99641	188 SS	39
	SPRING	6	99642	188 SS	99642	188 SS	99642	188 SS	40
BOLT, POWERFRAME	*4	W770426-188	188 SS	W770426-188	188 SS	W770426-188	188 SS	41	

**STANDARD U.S. MOUNTING**

**SINGLE CONTAINMENT CAN COMPONENTS**

R	POWERFRAME $\mu$ 1.125 INPUT SHAFT	1	99648	STL	99648	STL	99648	STL	38
	DRIVE MAGNET ASSY	1	99635	STL	99635	STL	99635	STL	31
	RING, CONTAINMENT CAN	1	99630	316 SS	99630	316 SS	99630	316 SS	28

**DOUBLE CONTAINMENT CAN COMPONENTS**

T	POWERFRAME $\mu$ 1.125 INPUT SHAFT	1	99648	STL	99648	STL	99648	STL	38
	DRIVE MAGNET ASSY	1	99638	STL	99638	STL	99638	STL	32
	CAN ASSY, CONTAINMENT	1	99631	316 SS	99632	ALLOY C	99633	ALLOY 20	27
	# O RING, CONTAINMENT CAN ASSY	*1	W212172-TFE	TFE	W212172-TFE	TFE	W212172-TFE	TFE	25
	NIPPLE, 1/8" NPT X 2.00	2	W773965-208	316 SS	W773965-235	ALLOY C	W773965-145	ALLOY 20	66

**STANDARD METRIC MOUNTING**

**SINGLE CONTAINMENT CAN COMPONENTS**

U	POWERFRAME $\mu$ 28 MM INPUT SHAFT	1	99649	STL	99649	STL	99649	STL	38
	DRIVE MAGNET ASSY	1	99635	STL	99635	STL	99635	STL	31
	RING, CONTAINMENT CAN	1	99630	316 SS	99630	316 SS	99630	316 SS	28

**DOUBLE CONTAINMENT CAN COMPONENTS**

V	POWERFRAME $\mu$ 28 MM INPUT SHAFT	1	99649	STL	99649	STL	99649	STL	38
	DRIVE MAGNET ASSY	1	99638	STL	99638	STL	99638	STL	32
	CAN ASSY, CONTAINMENT	1	99631	316 SS	99632	ALLOY C	99633	ALLOY 20	27
	# O RING, CONTAINMENT CAN ASSY	*1	W212172-TFE	TFE	W212172-TFE	TFE	W212172-TFE	TFE	25
	NIPPLE, 1/8" NPT X 2.00	2	W773965-208	316 SS	W773965-235	ALLOY C	W773965-145	ALLOY 20	66

\*COMPONENT QUANTITY MAY BE CUMULATIVE OVER ENTIRE B / M

# DENOTES RECOMMENDED SPARE PART

DWG: GM12P202