



WEAVER CONSTRUCTION MANAGEMENT, INC.

3679 S. Huron St., Suite 404

Englewood, CO 80110

Phone: (303) 789-4111 FAX: (303) 789-4310

SUBMITTAL TRANSMITTAL

August 8, 2011

WCM Submittal No: 11321-001

PROJECT: Harold Thompson Regional WRF
Birdsall Rd.
Fountain, CO 80817
Job No. 2908

ENGINEER: GMS, Inc.
611 No. Weber St., #300
Colorado Springs, CO 80903
719-475-2935 Roger Sams

OWNER: Lower Fountain Metropolitan
Sewage Disposal District
901 S. Santa Fe Ave.
Fountain, CO 80817
719-382-5303 James Heckman

CONTRACTOR: Schloss Engineered Equipment, Inc.
10555 E. Dartmouth Ave., Suite 230
Aurora, CO 80014
303-695-4500 Linda Wood

SUBJECT: Grit Separator Equipment - Motor Data, Mechanical Components, Controls and General Shop Drawings

SPEC SECTION: 11321 - Grit Separator Equipment

PREVIOUS SUBMISSION DATES:

DEVIATIONS FROM SPEC: ___ YES X NO

CONTRACTOR'S STAMP: This submittal has been reviewed by Weaver General Construction and approved with respect to the means, methods, techniques, & safety precautions & programs incidental thereto. Weaver General Construction also warrants that this submittal complies with contracted documents and comprises on deviations thereto:

Contractor's Stamp:

Date: 8/8/11

Reviewed by: H.C. Myers

(X) Reviewed Without Comments

() Reviewed With Comments

Engineer's Stamp:

**ENGINEER'S
COMMENTS:** _____



SCHLOSS ENGINEERED EQUIPMENT, INC.

10555 East Dartmouth Avenue, Suite 230

(303) 695-4500 OFFICE

Aurora, Colorado 80014

FAX (303) 695-4507

SUBMITTAL

**HAROLD D. THOMPSON
REGIONAL WATER RECLAMATION FACILITY
FOUNTAIN, COLORADO**

SPECIFICATION SECTION 11321 – Grit Separator Equipment

**SCHLOSS ENGINEERED EQUIPMENT, INC.
PROJECT NO. 1757-11**

SUBMITTAL

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SECTION I

COMMENTS

SUBMITTAL COMMENTS

HAROLD D. THOMPSON REGIONAL WATER RECLAMATION FACILITY
FOUNTAIN, COLORADO

ENGINEER: GMS, INC.
CONTRACTOR: WEAVER GENERAL CONSTRUCTION

SPECIFICATION SECTION 11321 – GRIT SEPARATOR EQUIPMENT

SCHLOSS ENGINEERED EQUIPMENT, INC.
PROJECT NO. 1757-11

Schloss Engineered Equipment, Inc. (SEE) is submitting on one (1) Type 12SW-CL grit classifier with cyclone for the above referenced project. Included with this submittal are a general arrangement drawing and catalog information. The following comments are furnished in direct response to the above referenced specification section, however, comments are provided only for clarification or exception.

2.1.A The cyclone is designed for 220 gpm, and can handle 250 gpm. Please refer to attached catalog information.

2.1.D The cyclone will be mounted at 22.5 degrees from horizontal and designed for 220 gpm at 5 psi minimum. The cyclone will have replaceable gum rubber liners, 4" inlet, and 6" outlet. Vent piping by contractor. It will be designed for 95% removal of material larger than 150 mesh having specific gravity of 2.65 or greater.

2.1.E The classifier will be capable of a minimum rate of 0.75 tons/hour. SEE recommends and is submitting a 3" grooved overflow connection on the tank. The screw will be 50% pitch, 12" diameter, steel flights welded to pipe, with replaceable AR wear shoes. The sealed oil lubricated lower bearing doesn't utilize lubrication lines. The screw will rotate at approximately 12 RPM. The motor will be direct connected to the helical gear speed reducer. V-belts aren't utilized. SEE will provide a 1/2" NPT water connection on the tank for dilution water as necessary. SEE doesn't recommend or provide a spray nozzle as it sprays the grit off the screw. A solenoid valve will be provided. Please refer to attached catalog information.

2.2 The cyclone will be steel with gum rubber liners and NiHard vortex finder. Piping by others. The AGMA continuous duty bearings in the speed reducer will have a L-10 life of far in excess of 50,000 hours.

2.3.B The cyclone will be provided with 4" inlet and 6" overflow flanges, quick disconnect clamps and a diaphragm protected pressure gauge. Please refer to attached catalog information.

2.3.C Please refer to previous comment about wash water connection.

2.3.D Please refer to previous comment about direct connected motor and speed reducer. The motor will be 0.5 horsepower, 480V, 60 Hz, 3 phase, Class 1, Division 1, Group D. Please refer to attached catalog information.

2.4 Please confirm that proposed prime paint shown on General Arrangement Drawing #1757-11-C1 will be compatible with field finish paint by others.

2.5 Anchor bolts by contractor.

2.6 As directed by Mr. Roger Sams with GMS, the controls will be included in the main panel submitted with the vortex grit chamber submittal.

2.7 The following spare parts will be provided:
A. one set seals and gaskets for the speed reducer
B. one lower bearing assembly

3.2 Installation, lubricants and finish paint by others. Please confirm that proposed prime paint shown on General Arrangement Drawing #1757-11-C1 will be compatible with field finish paint by others.

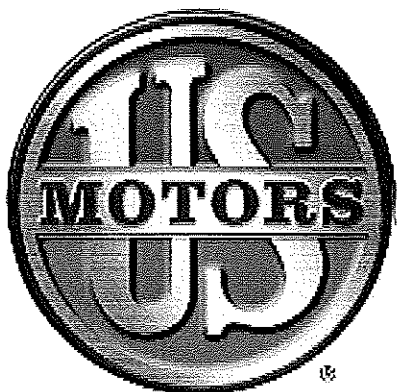
3.3 & 3.4 SEE will provide a factory trained technician for start up, testing and training. Please note that SEE can't legally supervise the installation/erection work of others.

Contractor to verify voltage and all dimensions.

8/4/11

SECTION II

MOTOR

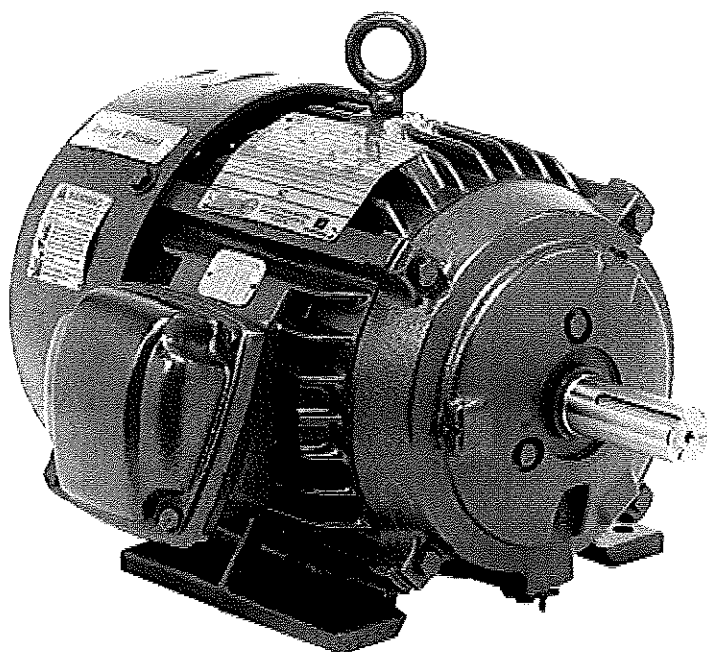


NIDEC MOTOR COPORATION

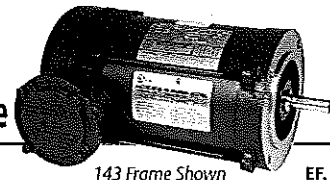
www.nidec-motor.com

Hazardous Location

- Single and three phase, TEFC
- 1/4 HP through 150 HP
- 3600, 1800, 1200 and 900 RPM
- 56 through 445 frame
- Energy and premium efficient
- Class I Group D; Class I, Groups C and D, and Class II, Groups E, F and G



General Purpose Three Phase, Totally Enclosed Fan Cooled (TEFC) Div. 1 Hazardous Location, Standard & Energy Efficient, Dual & Single Label, C-Face



143 Frame Shown

EF, LF
PH63

APPLICATIONS:

For pumps, fans, compressors, conveyors and tools located in hazardous locations as defined by Class and Group.

FEATURES:

For all Products in this Section:

- UL[®] Listed & CSA[®] Certified
- Cast Iron Inner Bearing Caps (180 Frame & Larger)
- 40°C Ambient, NEMA[®] Design B Performance (04)
- Regreaseable Bearings, 180 Frame & Up
- Lifting Provisions, 180 Frame & Up
- Conversion Kits: Cast Iron Fan Cover (180 Frame & Up)
- Sealed Bearings 56-140, Shielded 180 Frame & Up
- Class, Group & Temp Code as Noted Below

For Catalog Numbers Beginning with "X" or "Y":

- Cast Iron Frame Except Where Noted
- Cast Iron End Brackets & Conduit Box
- Class F Insulation
- 1.00 Service Factor on 60 Hertz
- Stainless Steel Nameplate & Zinc Plated Hardware
- Shaft Slinger on Pulley End for IP54 Protection

For Catalog Numbers Beginning with "XS":

- Aluminum End Brackets & Conduit Box
- Class B Insulation

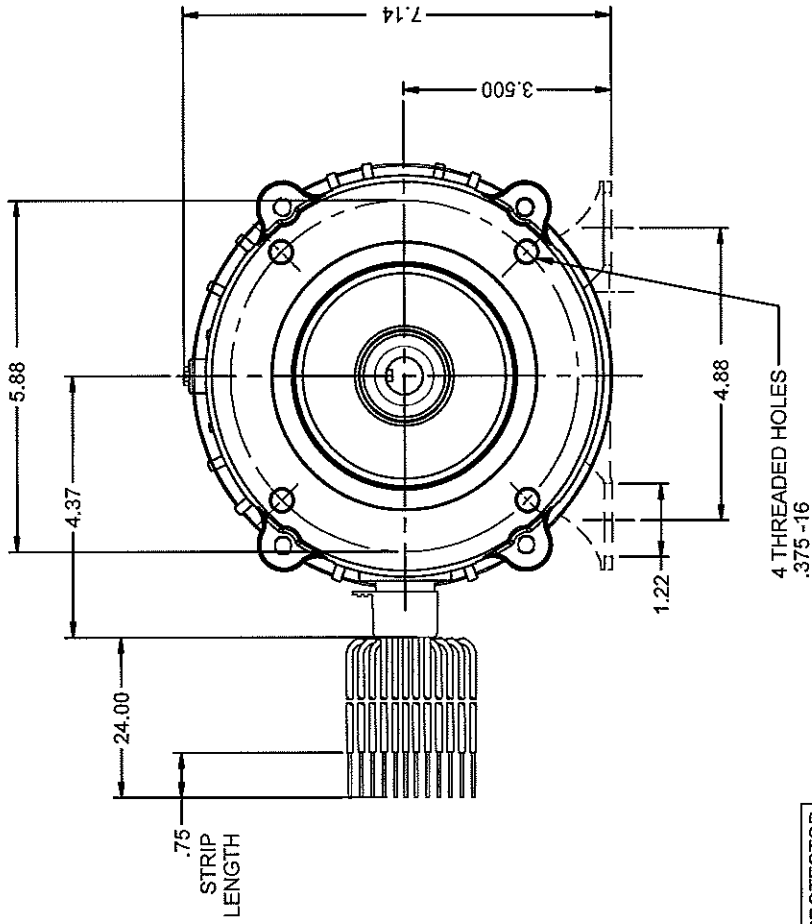
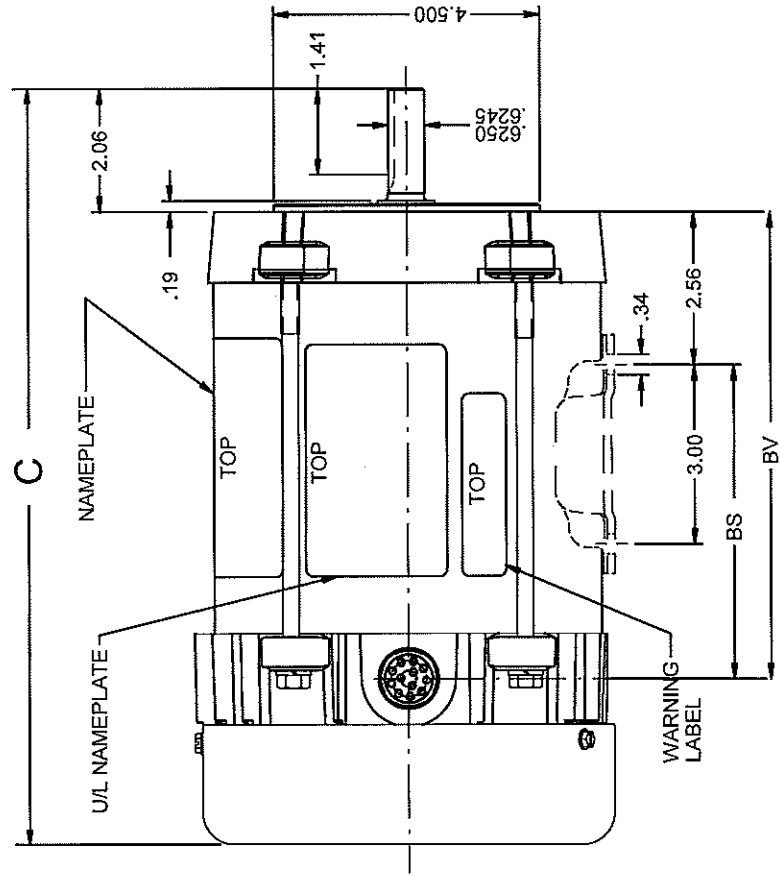
Footless

HP	RPM	Voltage	Frame	Catalog Number	Class I Group	Class II Group	Temp Code	List	Discount Symbol	"C" Dim. (inches)	Ship Wt. (lbs.)	Full Load Eff.	Full Load Amps	Notes
1/3	1800	208-230/460	56C	XS13SA2DCR	CD	EFG	T3C	\$661	DS-3F	13.3	29	-	1.4-1.3/0.65	13, 24
	1800	230/460	56C	Y13S2BCR	D	-	T2B	\$638	DS-3E	11.6	46	-	1.5/0.7	
1/2	1800	208-230/460	56C	XS12SA2DCR	CD	EFG	T3C	\$656	DS-3F	13.3	30	-	2.0-1.9/1.0	24
	1800	230/460	56C	Y12S2BCR	D	-	T2B	\$672	DS-3F	11.6	48	-	1.7/0.9	
3/4	3600	208-230/460	56C	XS34S1ACR	CD	EFG	T3C	\$692	DS-3F	13.3	34	-	2.7-2.6/1.3	24
	1800	230/460	56C	XS34SA2ACR	CD	EFG	T3B	\$731	DS-3F	13.5	36	-	2.6/1.3	51
	1800	230/460	56C	Y34S2BCR	D	-	T2B	\$708	DS-3F	11.6	52	-	2.7/1.3	
1	3600	208-230/460	56C	XS1S1ACR	CD	EFG	T3C	\$700	DS-3F	13.8	36	-	3.2-3.0/1.5	24
	3600	230/460	56C	Y1S1BCR	D	-	T2B	\$716	DS-3F	11.6	47	-	3/1.5	
	1800	208-230/460	143TC	XS1P2ACR	CD	EFG	T3B	\$1,279	DS-3CX	15.3	43	85.5	3.3-3.3/1.6	51
1-1/2	1800	208-230/460	143TC	XS32S2ACR	CD	EFG	T3C	\$1,175	DS-3CX	14.8	44	84.0	5.0-4.9/2.5	51
	1800	230/460	145TC	X32E2BCR	D	FG	T3B	\$1,202	DS-3CX	13.2	75	84.0	2.1	
	1800	208-230/460	145TC	XS32P2ACR	D	FG	T3B	\$1,351	DS-3CX	15.8	50	86.5	4.9-4.8/2.4	51
	1800	208-230/460	145TC	XS2E2ACR	CD	EFG	T3C	\$1,430	DS-3CX	16.8	59	84.0	6.7-6.4/3.2	51
2	1800	208-230/460	145TC	XS2P2ACR	CD	EFG	T3C	\$1,427	DS-3CX	15.8	50	86.5	6.2-6.0/3.0	51
	1800	230/460	145TC	X2E2BCR	D	FG	T3B	\$1,344	DS-3CX	13.2	75	84.0	5.6/2.8	
	1800	230/460	182TC	X3E2BCR	D	FG	T3B	\$1,472	DS-3CX	16.1	105	87.3	8.2/4.1	
3	1800	230/460	184TC	X5E2BCR	D	FG	T3B	\$1,605	DS-3CX	16.1	118	87.5	12.8/6.4	
5	1800	230/460	213TC	X7E2BCR	D	FG	T3B	\$2,198	DS-3CX	19.9	145	89.5	18.6/9.3	
7-1/2	1800	230/460	215TC	X10E2BCR	D	FG	T3B	\$2,360	DS-3CX	19.9	170	89.5	25.6/12.8	
10	1800	230/460	254TC	X15E2BCR	CD	FG	T3C	\$3,046	DS-3CX	25.4	300	91.0	37.0/18.5	

Note 04 On 60 Hertz Sine Wave power
Note 13 Steel Frame Construction

Note 24 Automatic Reset Thermal Overload Protector
Note 51 Equipped with Winding Thermostat

† All marks shown within this document are properties of their respective owners.



VAR	MODEL	CATALOG NO.	C	BS	BV	HP	VOLTS	HZ	RPM	BASE REQUIREMENT	PROTECTOR
001	PH63GVABA-1020	XS34S1ACR	13.27	---	8.44	3/4	208-230/460	60	3450	NONE	AUTO
002	PH63GVAAAT-1016	XS1S1ACR	13.77	---	8.94	1	208-230/460	60	3450	NONE	AUTO
003	PH63GVACM-1051	XS12SA2BCR	13.27	---	8.44	1/2	230/460	60/50	1725/1425	NONE	AUTO
004	PH63GVADL-1070	XS1SA2ACR	14.27	---	9.44	1	208-230/460	60	1725	NONE	AUTO
005	PH63GVADH-1057	XS1SA2AC	14.27	---	9.44	1	208-230/460	60	1725	YES	AUTO
006	PH63GVACL-1050	XS94SA2ACR	14.27	---	9.44	3/4	208-230/460	60	1725	NONE	AUTO

NOTES:
1.) CONDUIT BOX SUPPLIED DETACHED.

ROTATION : REVERSIBLE

REVISION RECORD FOR: JG# 63929	
REV	VAR *006 & *007* ADDED.
SHEET NUMBER 1 of 2	REVISION DATE 4-26-07
SOLDED BY K. MUJUMDAR	ENGINEER APPROVED R. MORE

EMERSON Motor Technologies

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ALL DIMENSIONS ARE FOR REFERENCE ONLY UNLESS TOLERANCE IS GIVEN.

TITLE: ASSEMBLED VIEW
CODE: V01
ITEM NO.: 768996
SIZE: B

VAR	MODEL	CATALOG NO.	C	BS	BV	HP	VOLTS	HZ	RPM	BASE REQUIREMENT	PROTECTOR
007	PH63GVAEB-1081	XS13SA2DCR	13.27	5.88	8.44	1/3	208-230/460	60/50	1725/1425	NONE	AUTO
008	PH63GVADS-1075	XS94SA2AC	14.27	6.88	9.44	3/4	208-230/460	60 & 50	1725 & 1425	N56	AUTO
009	PH63GVADW-1077	XS12SA2AC	13.27	5.88	8.44	1/2	208-230/460	60/50	1725/1425	N56	AUTO



SHEET NUMBER
2 of 2

REV C

REVISION DATE
4-26-07

REVISION RECORD FOR: Jc# 63929

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TITLE

CODE

ITEM NO.

SIZE

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ISSUED BY
K. MUJUMDAR

REVIEWED BY
R. MORE

ENGINEER APPROVED
R. MORE

ASSEMBLED VIEW

V01

768996

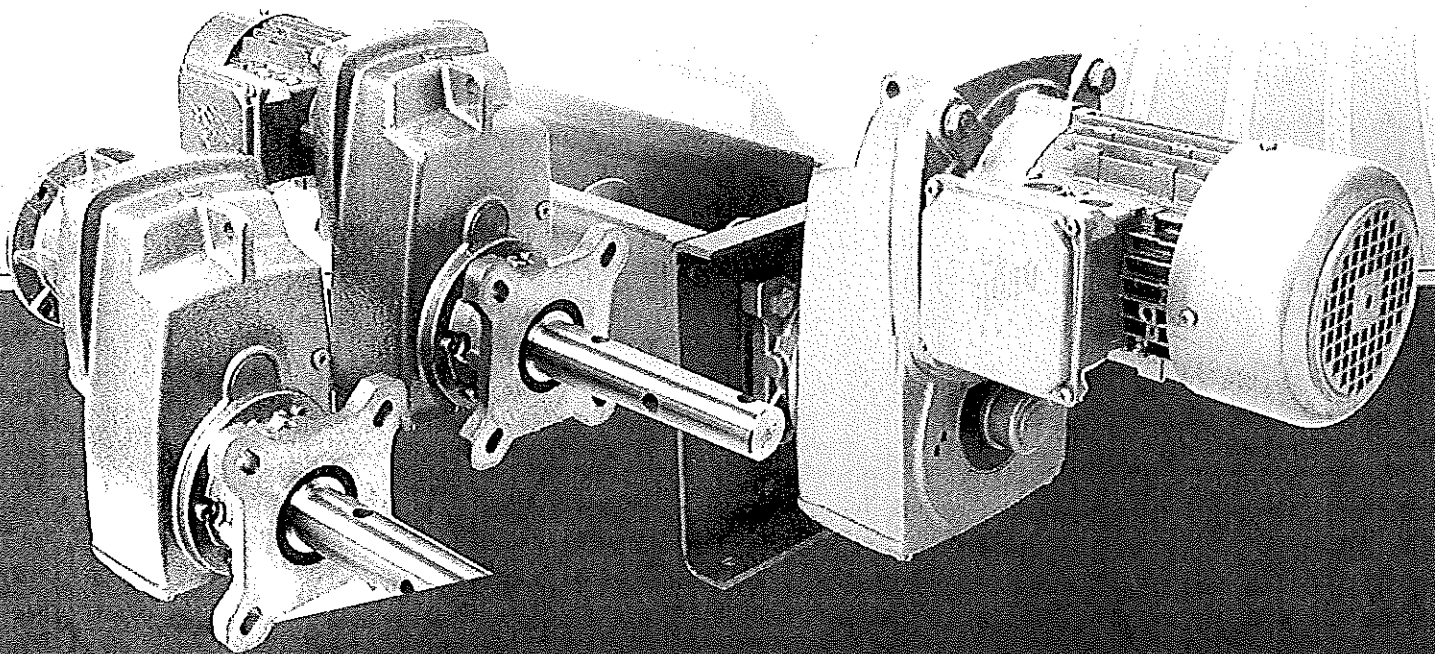
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SECTION III

MECHANICAL COMPONENTS

SCREW CONVEYOR PACKAGE GEARMOTORS & SPEED REDUCERS

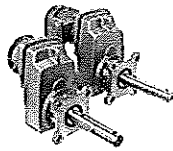
SIMPLE, RELIABLE, EFFICIENT



UNICASE™
CLINCHER™
F1129



NORD GEAR
≡ DRIVESYSTEMS ≡



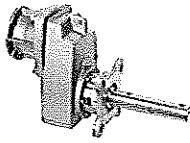
SK 1282 SCP & SK 1382 SCP Ratings & Combinations

Type	Ratio	Output Speed 1750 rpm Input n_2 [rpm]	Max Torque T_{max} [lb-in]	Max Power 1750 rpm input P_{max} [hp]	NEMA C-face			Integral Motor											
					56C	140TC	180TC	63S/4	63L/4	71S/4	71L/4	80S/4	80L/LH/4	90S/SH/4	90L/LH/4	100L/LH/4	100LA/ 1112NH/4		
																		1 hp	2 hp
SK 1282 SCP	4.79	365	1133	* 5.00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	5.47	320	1522	* 5.00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	6.43	272	1602	* 5.00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	7.24	242	1655	* 5.00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	8.21	213	1416	4.78	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	8.24	212	1690	* 5.00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	9.18	191	1673	* 5.00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	10.34	169	1735	4.65	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	11.76	149	1805	4.27	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	14.11	124	1859	3.66	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	17.21	102	1982	3.21	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	20.57	85	1991	2.68	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	25.22	69	1991	2.18	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	28.33	62	1991	1.96	X	X		X	X	X	X	X	X	X	X				
	32.08	55	2036	1.78	X	X		X	X	X	X	X	X	X	X				
	41.07	43	1920	1.31	X	X					X	X	X						
	46.19	38	1735	1.05	X			X	X	X	X								
	49.25	36	2301	1.31	X	X					X	X	X						
	55.39	32	2080	1.06	X			X	X	X	X								
	58.89	30	2505	1.19	X	X					X	X							
66.23	26	2390	0.99	X			X	X	X	X									
72.17	24	2620	1.00	X	X					X	X	X							
81.17	22	2620	0.91	X			X	X	X	X									
92.48	19	2053	0.62	X			X	X	X	X									
109.50	16	1850	0.47	X			X	X	X										
SK 1382 SCP	87.94	20	2425	0.77	X			X	X	X	X								
	105.11	17	2390	0.63	X			X	X	X	X								
	128.82	14	1991	0.43	X			X	X	X	X								
	163.93	11	1991	0.34	X			X	X	X	X								
	209.87	8.3	2080	0.28	X			X	X	X	X								
	251.67	7.0	2425	0.27	X			X	X	X	X								
	300.93	5.8	2390	0.22	X			X	X	X	X								
	368.79	4.8	1991	0.15	X			X	X	X	X								
	414.78	4.2	1991	0.13	X			X	X	X	X								
	472.60	3.7	1991	0.12	X			X	X	X	X								
	556.83	3.1	1991	0.10	X			X	X	X									
	634.45	2.8	1965	0.09	X			X	X	X									

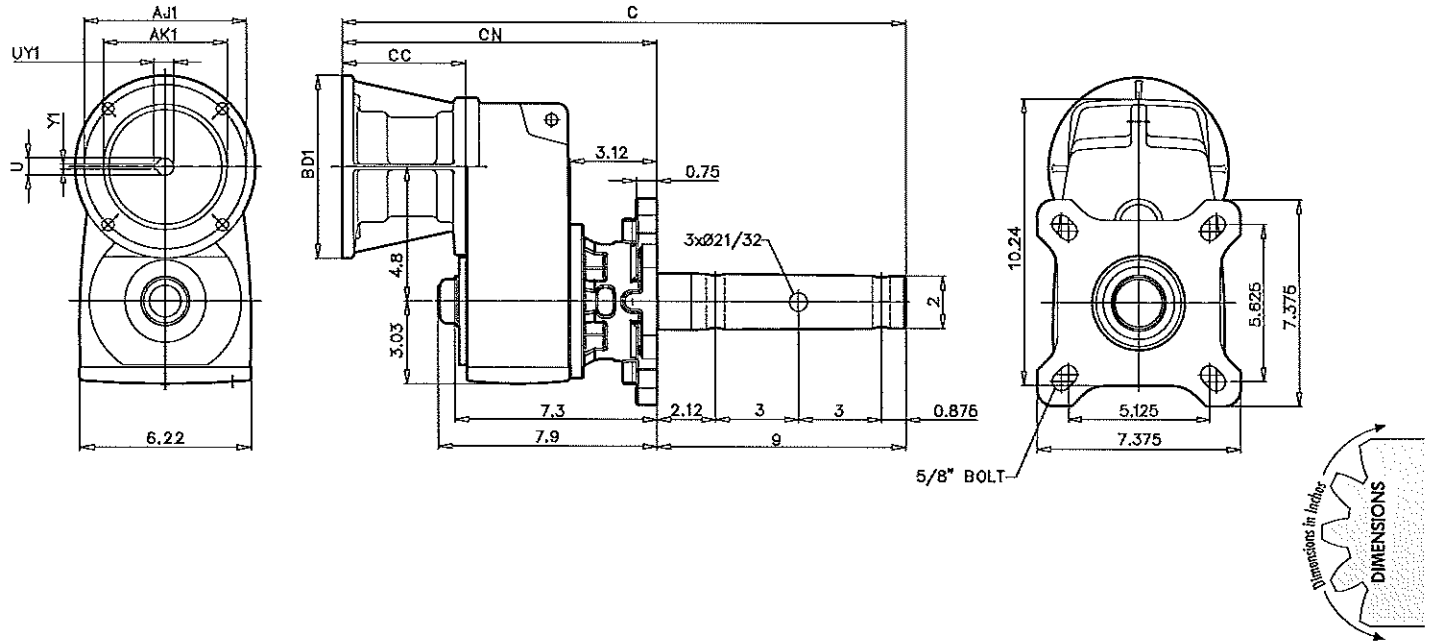
SELECTIONS

* Maximum power listed is limited by the largest motor combination. This is not a thermal or mechanical power limit for the gear unit.

When Selecting NEMA C-face reducer, do not exceed the power listed for the NEMA input size in the table. The powers shown are based on 4-pole (1750 rpm) motor speeds and will vary for other motor speeds.



SK 1282 SCP ~ C-Face 2" CEMA Drive Shaft



NEMA C-Face Input	Overall		NEMA Input				Coupling		
	C	CN	CC	BD1	AJ1	AK1	U	UY1	Y1
56C	20.35	11.35	4.45	6.54	5.875	4.500	0.625	0.71	0.188
140TC	20.35	11.35	4.45	6.54	5.875	4.500	0.875	0.96	0.188
180TC	21.55	12.55	5.65	9.17	7.250	8.500	1.125	1.24	0.250

KREBS CYCLONE PARTS LIST

Model D10LB-844/845 With No. 168 Apex Assembly

Revised To Date: October 30, 2001

PART NUMBER DESCRIPTION

1. C3241-ST-4F Inlet Flanged Adapter Spool Piece, 4" Size, With 1.25" NPT Connection, Steel
- G1. PF-PLUG-1.25-GA Pipe Plug, 1.25" Size, Galvanized Steel.
2. 105LF-ST-(SIZE) Overflow Flanged Adapter, Victaulic Grooved, 4", 5", Or 6" Size, Steel.
3. 105GL-RN Gasket, Neoprene, 2 Required.
4. 103L-ST Top Cover Plate, Steel.
5. C2156G-2-RN Top Cover Plate, Gasket, Neoprene.
6. 103R-(MOC)-5 Top Cover Plate Liner, 5" Size, (MOC).
7. 102L-(SIZE) Inlet Head, Steel.
8. 102LR-(MOC)-(SIZE) Inlet Head Liner, 7.8" Or 9.6" Square Inch Inlet Nozzle Orifice Size, (MOC).
9. 105L-NH-(SIZE) Vortex Finder, Nihard, Sizes Available: 2", 2.5", 3", 3.5", 4" & 4.5".
(4.5" Used with 5" Or 6" Overflow Flanged Adapter).
10. 104L-ST-MF Cylinder With Mounting Frame, Steel.
11. 104R-(MOC) Cylinder Liner, (MOC).
12. 94-ST-C7709 Cone Section, With Toggle Clamps, Steel.
13. 94R-(MOC) Cone Liner, (MOC).
14. 168-(MOC) Apex Housing, Aluminum Or Steel.
15. 68R-(MOC)-(SIZE) Apex Valve Liner, (MOC), Sizes Available: .375", .5", .625", .75", .875, 1",
1.125", 1.25", 1.375", 1.5", 1.625", 1.75", 2", 2.25" & 2.5".
16. C7716-SS Clamp, Stainless Steel.

STANDARD LINER MATERIAL

MOC = Material Of Construction.

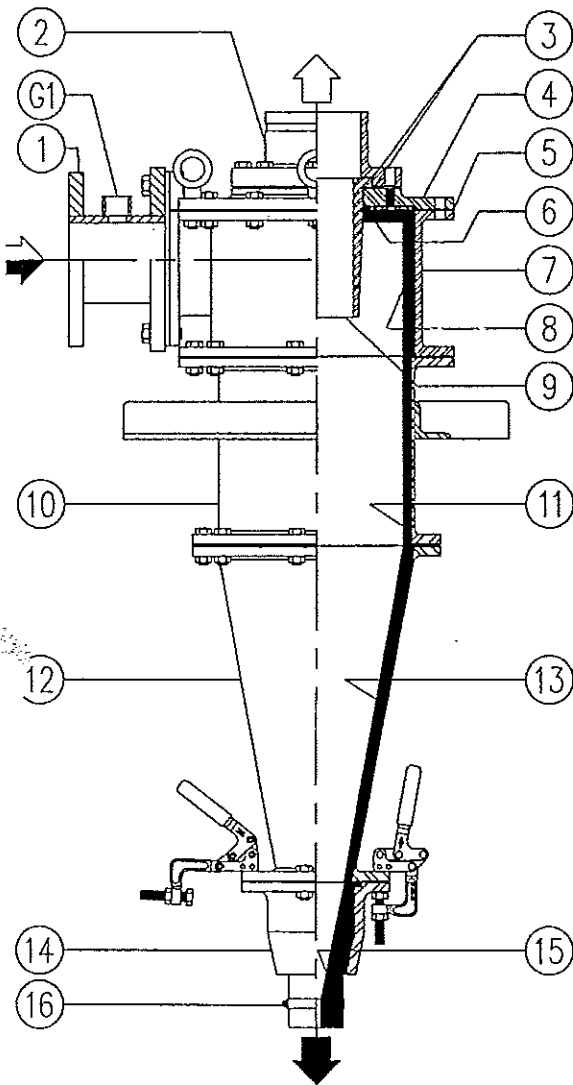
STANDARD ACCESSORIES

Pressure Gauge And Diaphragm Assembly For Inlet Line.

- INLET:** VIC-741-4 Victaulic Adapter Flange Style 741, 4" Size, Steel.
- OVERFLOW:** VIC-13-(SIZE) Victaulic 1 1/2 Degree Elbow, 4", 5" Or 6" Size, Steel.
VIC-77-(SIZE) Coupling, 4", 5", Or 6" Size, Steel.
VIC-741-(SIZE) Victaulic Adapter Flange Style 741, 4", 5" Or 6" Size, Steel.

SPECIAL PARTS AVAILABLE

- 152F-(MOC)-4 Inlet Flanged Adapter, Victaulic Grooved, 4" Size, (MOC) Lined Steel
- 152F-ST-4F Inlet Flanged Adapter Spool Piece, 4" Size, Steel.
- 152F-(MOC)-4F Inlet Flanged Adapter Spool Piece, 4" Size, (MOC) Lined Steel.
- 105LF-(MOC)-(SIZE) Overflow Flanged Adapter Spool, Victaulic Grooved, 4", 5" Or 6" Size, (MOC) Lined Steel.
- 105LF-ST-(SIZE)F Overflow Flanged Adapter Spool Piece, 4", 5" Or 6" Size, Steel.
- 105LF-(MOC)-(SIZE)F Overflow Flanged Adapter Spool Piece, 4", 5" Or 6" Size, (MOC) Lined Steel.



Material Symbols: CC: 90% Alumina (01-16-97)	CG: Silicon Carbide Composite	CX: Reaction Bonded Silicon Carbide	CZ: Sintered Alpha Silicon Carbide	NK: Nickel	NR: Niresist	PC: CPVC	PF: FRP	PK: Kymar PVDF	PN: Nylon	PP: Polypropylene	RD: Compressed Non-Asbestos	PA: Plastic	PV: PVC	RA: Vitrothene Compound 6053	RE: EPDM	RF: Food Grade Neoprene	RG: Gum Rubber	RH: Nitrile	RI: High Temp. Urethane	RT: Ultrane II (Food Grade)	RJ: White Nitrile	RK: Ultrane HT	RL: White Urethane(95)	RP: Hypalon	RO: Food Grade Rubber	RT: Ultrane II (Food Grade)	RU: 90 Durometer Urethane	RV: 95 Durometer Urethane	RV75: 75 Durometer Urethane	RV90: 90 Duro. Urethane	RX: SECON Rubber	RZ: Ultrane V	RY: Nilon	SD: Stainless Duplex Steel	SC: CD4MCU	SI: 625 Inconel	SS: Stainless Steel	SSB: Boride Coated SS	SS6: AL-6XM	SDB: Boride Coated SS	SK: Hastelloy	SL: Titanium	XZ: Corrosion Resist. Units
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PLEASE SPECIFY PART NUMBER AND CYCLONE SERIAL NUMBER WHEN ORDERING PARTS.



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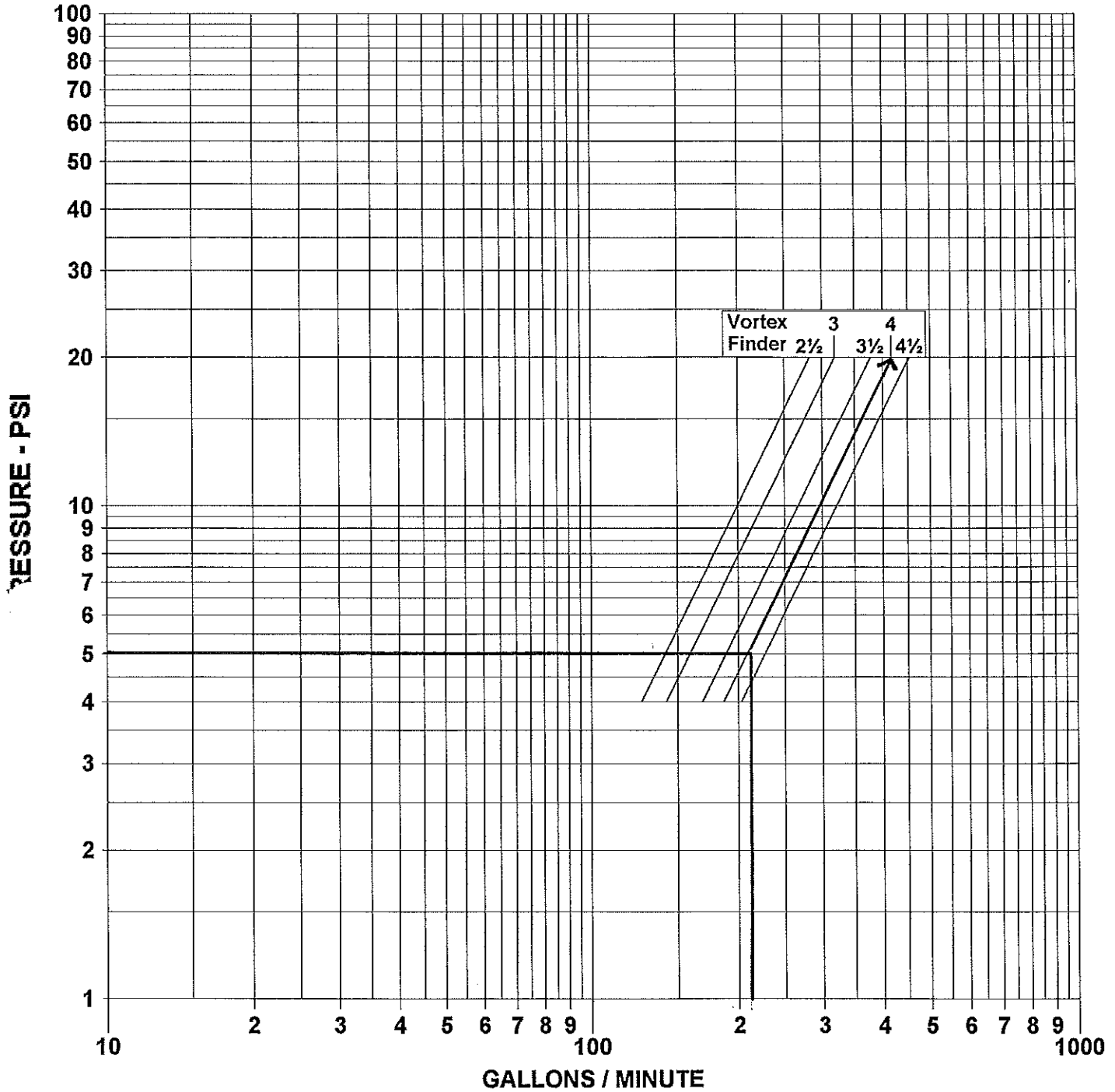
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9.60 SQ. IN. INLET ORIFICE



CAPACITY IS BASED ON WATER AT AMBIENT TEMPERATURE
 AND APEX DIAMETER EQUAL TO ONE HALF THE VORTEX
 FINDER DIAMETER, AND MAY VARY AT DIFFERENT RATIOS

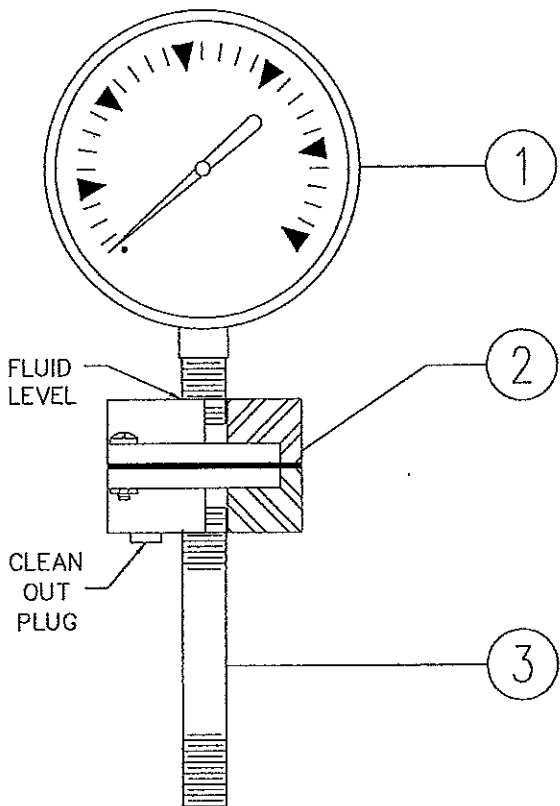
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KREBS CYCLONE PARTS LIST

Pressure Gauge & Diaphragm Assembly

Revised To Date: July 7, 2004



PART NUMBER	DESCRIPTION
1. PI-GAUGE-015	Pressure Gauge, Bourdon Tube Type With 3.5" Diameter Dial, 0-15 P.S.I. Graduations With .25" NPT Connection.
PI-GAUGE-030	Pressure Gauge, Bourdon Tube Type With 3.5" Diameter Dial, 0-30 P.S.I. Graduations With .25" NPT Connection.
PI-GAUGE-060	Pressure Gauge, Bourdon Tube Type With 3.5" Diameter Dial, 0-60 P.S.I. Graduations With .25" NPT Connection.
PI-GAUGE-100	Pressure Gauge, Bourdon Tube Type With 3.5" Diameter Dial, 0-100 P.S.I. Graduations With .25" NPT Connection.
PI-GAUGE-160	Pressure Gauge, Bourdon Tube Type With 3.5" Diameter Dial, 0-160 P.S.I. Graduations With .25" NPT Connection.
PI-GAUGE-300	Pressure Gauge, Bourdon Tube Type With 3.5" Diameter Dial, 0-300 P.S.I. Graduations With .25" NPT Connection.
PI-GAUGE-600	Pressure Gauge, Bourdon Tube Type With 3.5" Diameter Dial, 0-600 P.S.I. Graduations With .25" NPT Connection.
2. PI-DIAPHRAGM	Diaphragm Assembly Complete With Viton Diaphragm, .25" N.P.T. Connections & Allen Type Cleanout Plug, Aluminum Alloy.
3. PF-NIP-.25X3GA	Pipe Nipple, .25"X3" Long, Galvanized Steel.

NOTE:

Upper Chamber of Body Must Be Filled With Fluid-Any Light Weight Machine Oil Is Suitable.

Material Symbols: CC: 90% Alumina (01-16-97)	CX: Reaction Bonded Silicon Carbide	NK: Nickel	PA: Plastic	RE: EPDM	RJ: White Nitrile	RU: 90 Durometer Urethane	RV90: 90 Duro, Viton Urethane	SI: 625 Inconel
AL: Aluminum	CG: Silicon Carbide Composite	NR: Niresist	PV: PVC	RF: Food Grade Neoprene	RK: Urethane HI	RW: Urethane II	RW: Urethane II	SS: Stainless Steel
AR: AR Plate	CI: Cast Iron	CZ: Sintered Alpha Silicon Carbide	PC: CPVC	RA: Ybrathane Compound 6083	RM: White Urethane(95)	RU7: Urethane	RK: Silicon Rubber	SSB: Boride Coated SS
AT: Alloy 20	CQ: Super Refrax-K	G: Gasket	PF: FRP	RG: Gum Rubber	RN: Neoprene	RU95: 95 Durometer Urethane	RY: Urethane II (93)	SS6: AL-6XN
BG: Black Gold	CR: Nitride Bonded Silicon Carbide	GF: Gylon Fawn	PK: Kynar PVDF	RB: Chlorobutyl	RH: Nitrile	RP: Hypalon	RZ: Urethane V	SDB: Boride Coated SS
BPC: BPC Rubber	ML: Monel	PN: Nylon	PP: Polypropylene	RC: Royal Cast	RI: High Temp. Urethane	RQ: Food Grade Rubber	SA: Hastelloy	SI: Carbon Steel
CB: 96% Alumina	CS: Cast Steel	NH: NiHard	PF: Teflon	RD: Compressed Non-Asbestos Compound 9150	RT: Urethane II (Food Grade)	RV75: 75 Durometer Urethane	SD: Stainless Duplex	TI: Titanium
						SC: CD4MCU	XZ: Corrosion Resist. Units	

PLEASE SPECIFY PART NUMBER AND CYCLONE SERIAL NUMBER WHEN ORDERING PARTS.

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Features

- Wide range of pressure ratings, sizes, and resilient materials provide long service life and low internal leakage
- High Flow Valves for liquid, corrosive, and air/inert gas service
- Industrial applications include:
 - Car wash
 - Laundry equipment
 - Air compressors
 - Industrial water control
 - Pumps

Construction

Valve Parts in Contact with Fluids		
Body	Brass	304 Stainless Steel
Seals and Discs	NBR or PTFE	
Disc-Holder	PA	
Core Tube	305 Stainless Steel	
Core and Plugnut	430F Stainless Steel	
Springs	302 Stainless Steel	
Shading Coil	Copper	Silver

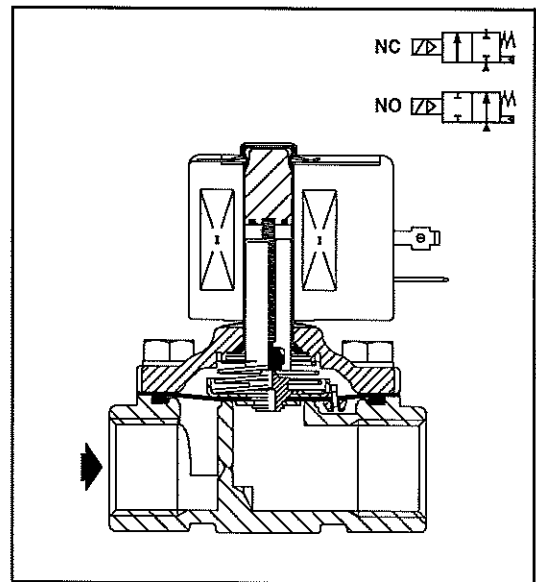
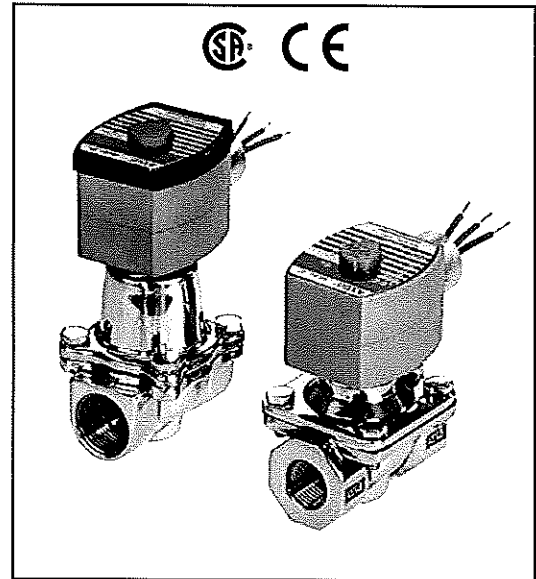
Electrical

Standard Coil and Class of Insulation	Watt Rating and Power Consumption				Spare Coil Part Number			
	DC Watts	AC			General Purpose		Explosionproof	
		Watts	VA Holding	VA Inrush	AC	DC	AC	DC
F	-	6.1	16	40	238210	-	238214	-
F	11.6	10.1	25	70	238610	238710	238614	238714
F	16.8	16.1	35	180	272610	97617	272614	97617
F	-	17.1	40	93	238610	-	238614	-
F	-	20	43	240	99257	-	99257	-
F	-	20.1	48	240	272610	-	272614	-
H	30.6	-	-	-	-	74073	-	74073
H	40.6	-	-	-	-	238910	-	238914

Standard Voltages: 24, 120, 240, 480 volts AC, 60 Hz (or 110, 220 volts AC, 50 Hz). 6, 12, 24, 120, 240 volts DC. Must be specified when ordering.
 Other voltages available when required.

Solenoid Enclosures

Standard: RedHat II - Watertight, Types 1, 2, 3, 3S, 4, and 4X; RedHat - Type I.
Optional: RedHat II - Explosionproof and Watertight, Types 3, 3S, 4, 4X, 6, 6P, 7, and 9; Red-Hat - Explosionproof and Watertight, Types 3, 4, 4X, 7, and 9.
 (To order, add prefix "EF" to catalog number, except Catalog Numbers 8210B057, 8210B058, and 8210B059, which are not available with Explosionproof enclosures.)
 See *Optional Features Section* for other available options.



Nominal Ambient Temp. Ranges

RedHat II/
 RedHat AC: 32°F to 125°F (0°C to 52°C)
 RedHat II DC: 32°F to 104°F (0°C to 40°C)
 RedHat DC: 32°F to 77°F (0°C to 25°C)
 (104°F/40°C occasionally)

Refer to *Engineering Section* for details.

Approvals

CSA certified. RedHat II meets applicable CE directives.
 Refer to *Engineering Section* for details.

Specifications (English units)

Pipe Size (Ins.)	Orifice Size (Ins.)	Cv Flow Factor	Operating Pressure Differential (psi)							Max. Fluid Temp. °F		Brass Body			Stainless Steel Body			Watt Rating/ Class of Coil Insulation ⑥		
			Max. AC			Max. DC				AC	DC	Catalog Number	Const. Ref. ⑦	UL ⑧ Listing	Catalog Number	Const. Ref. ⑦	UL ⑧ Listing	AC	DC	
			Min.	Air-Inert Gas	Water	Light Oil @ 300 SSU	Air-Inert Gas	Water	Light Oil @ 300 SSU											
NORMALLY CLOSED (Closed when de-energized), NBR or PTFE ⑨ Seating																				
3/8	3/8	1.5	⊕	150	125	-	40	40	-	180	150	8210G073 ⑩	1P	●	8210G036 ⑪	1P	●	6.1/F	11.6/F	
3/8	5/8	3	0	150	150	-	40	40	-	180	150	8210G093	5D	○	-	-	-	10.1/F	11.6/F	
3/8	5/8	3	5	200	150	135	125	100	100	180	150	8210G001	6D	○	-	-	-	6.1/F	11.6/F	
3/8	5/8	3	5	300	300	300	-	-	-	175	-	8210G006	5D	○	-	-	-	17.1/F	-	
1/2	7/16	2.2	⊕	150	125	-	40	40	-	180	150	8210G015 ⑩	2P	●	8210G037 ⑪	2P	●	6.1/F	11.6/F	
1/2	5/8	4	0	150	150	-	40	40	-	180	150	8210G094	5D	○	-	-	-	10.1/F	11.6/F	
1/2	5/8	4	0	150	150	125	40	40	-	175	150	-	-	-	8210G087	7D	●	17.1/F	11.6/F	
1/2	5/8	4	5	200	150	135	125	100	100	180	150	8210G002	6D	○	-	-	-	6.1/F	11.6/F	
1/2	5/8	4	5	300	300	300	-	-	-	175	-	8210G007	5D	○	-	-	-	17.1/F	-	
1/2	3/4	4	5	-	300	-	-	300	-	180	125	8210G227	5D	○	-	-	-	17.1/F	40.6/H	
3/4	5/8	4.5	0	150	150	125	40	40	-	175	150	-	-	-	8210G088	7D	●	17.1/F	11.6/F	
3/4	3/4	5	5	125	125	125	100	90	75	180	150	8210G009	9D	○	-	-	-	6.1/F	11.6/F	
3/4	3/4	5	0	150	150	-	40	40	-	180	150	8210G095	8D	○	-	-	-	10.1/F	11.6/F	
3/4	3/4	6.5	5	250	150	100	125	125	125	180	150	8210G003	11D	○	-	-	-	6.1/F	11.6/F	
3/4	3/4	6	0	-	-	-	200	180	-	77	-	8210B026 ⑫ †	10P	-	-	-	-	-	30.6/H	
3/4	3/4	6	0	350	300	200	-	-	-	200	-	8210G026 ⑫ †	40P	●	-	-	-	-	16.1/F	-
1	1	13	0	-	-	-	100	100	80	-	77	8210B054 †	31D	-	8210D089	15D	-	-	30.6/H	
1	1	13	0	150	125	125	-	-	-	180	-	8210G054	41D	●	8210G089	45D	●	16.1/F	-	
1	1	13	5	150	150	100	125	125	125	180	150	8210G004	12D	○	-	-	-	6.1/F	11.6/F	
1	1	13.5	0	300	225	115	-	-	-	200	-	8210G027 †	42P	●	-	-	-	20.1/F	-	
1	1	13.5	10	300	300	300	-	-	-	175	-	8210G078 ⑬	13P	-	-	-	-	17.1/F	-	
1 1/4	1 1/8	15	0	-	-	-	100	100	80	-	77	8210B055 †	32D	-	-	-	-	-	30.6/H	
1 1/4	1 1/8	15	0	150	125	125	-	-	-	180	-	8210G055	43D	●	-	-	-	-	16.1/F	-
1 1/4	1 1/8	15	5	150	150	100	125	125	125	180	150	8210G008	16D	○	-	-	-	6.1/F	11.6/F	
1 1/2	1 1/4	22.5	0	-	-	-	100	100	80	-	77	8210B056 †	33D	-	-	-	-	-	30.6/H	
1 1/2	1 1/4	22.5	0	150	125	125	-	-	-	180	-	8210G056	44D	●	-	-	-	-	16.1/F	-
1 1/2	1 1/4	22.5	5	150	150	100	125	125	125	180	150	8210G022	18D	●	-	-	-	6.1/F	11.6/F	
2	1 3/4	43	5	150	125	90	50	50	50	180	150	8210G100	20P	●	-	-	-	6.1/F	11.6/F	
2 1/2	1 3/4	45	5	150	125	90	50	50	50	180	150	8210G101	21P	●	-	-	-	6.1/F	11.6/F	
NORMALLY OPEN (Open when de-energized), NBR Seating (PA Disc-Holder, except as noted)																				
3/8	5/8	3	0	150	150	125	125	125	80	180	150	8210G033	23D	●	-	-	-	10.1/F	11.6/F	
3/8	5/8	3	5	250	200	200	250	200	200	180	180	8210G011 ⑭ ⑮	39D	●	-	-	-	10.1/F	11.6/F	
1/2	5/8	4	0	150	150	125	125	125	80	180	150	8210G034	23D	●	-	-	-	10.1/F	11.6/F	
1/2	5/8	3	0	150	150	100	125	125	80	180	150	-	-	-	8210G030	37D	●	10.1/F	11.6/F	
1/2	5/8	4	5	250	200	200	250	200	200	180	180	8210G012 ⑭ ⑮	39D	●	-	-	-	10.1/F	11.6/F	
3/4	3/4	5.5	0	150	150	125	125	125	80	180	150	8210G035	25D	●	-	-	-	10.1/F	11.6/F	
3/4	5/8	3	0	150	150	100	125	125	80	180	150	-	-	-	8210G038	38D	●	10.1/F	11.6/F	
3/4	3/4	6.5	5	-	-	-	250	200	200	-	180	8210G013	24D	●	-	-	-	-	16.8/F	
3/4	3/4	6.5	5	250	200	200	-	-	-	180	-	8210G013	46D	●	-	-	-	16.1/F	-	
1	1	13	0	125	125	125	-	-	-	180	-	8210B057 ⑯ ⑰	34D	●	-	-	-	20/F	-	
1	1	13	5	-	-	-	125	125	125	-	180	8210D014	26D	●	-	-	-	-	16.8/F	
1	1	13	5	150	150	125	-	-	-	180	-	8210G014	47D	●	-	-	-	16.1/F	-	
1 1/4	1 1/8	15	0	125	125	125	-	-	-	180	-	8210B058 ⑯ ⑰	35D	●	-	-	-	20/F	-	
1 1/4	1 1/8	15	5	-	-	-	125	125	125	-	180	8210D018	28D	●	-	-	-	-	16.8/F	
1 1/4	1 1/8	15	5	150	150	125	-	-	-	180	-	8210G018	48D	●	-	-	-	16.1/F	-	
1 1/2	1 1/4	22.5	0	125	125	125	-	-	-	180	-	8210B059 ⑯ ⑰	36D	●	-	-	-	20/F	-	
1 1/2	1 1/4	22.5	5	-	-	-	125	125	125	-	180	8210D032	29D	●	-	-	-	-	16.8/F	
1 1/2	1 1/4	22.5	5	150	150	125	-	-	-	180	-	8210G032	49D	●	-	-	-	16.1/F	-	
2	1 3/4	43	5	-	-	-	125	125	125	-	150	8210 103	30P	●	-	-	-	-	16.8/F	
2	1 3/4	43	5	125	125	125	-	-	-	180	-	8210G103	50P	●	-	-	-	16.1/F	-	
2 1/2	1 3/4	45	5	-	-	-	125	125	125	-	150	8210 104	27P	●	-	-	-	-	16.8/F	
2 1/2	1 3/4	45	5	125	125	125	-	-	-	180	-	8210G104	51P	●	-	-	-	16.1/F	-	

⑥ 5 psi on Air; 1 psi on Water.

⑦ Valve provided with PTFE main disc.

⑧ Valve includes Ultem (G.E. trademark) piston.

⑨ Letter "D" denotes diaphragm construction; "P" denotes piston construction.

⑩ ○ Safety Shutoff Valve; ● General Purpose Valve.

Refer to Engineering Section (Approvals) for details.

⑪ Valves not available with Explosionproof enclosures.

⑫ On 50 hertz service, the watt rating for the 6.1/F solenoid is 8.1 watts.

⑬ AC construction also has PA seating.

⑭ No disc-holder.

⑮ Stainless steel disc-holder.

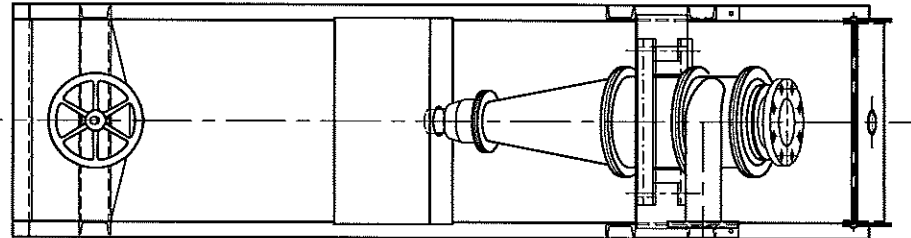
⑯ † Must have solenoid mounted vertical and upright.

SECTION IV

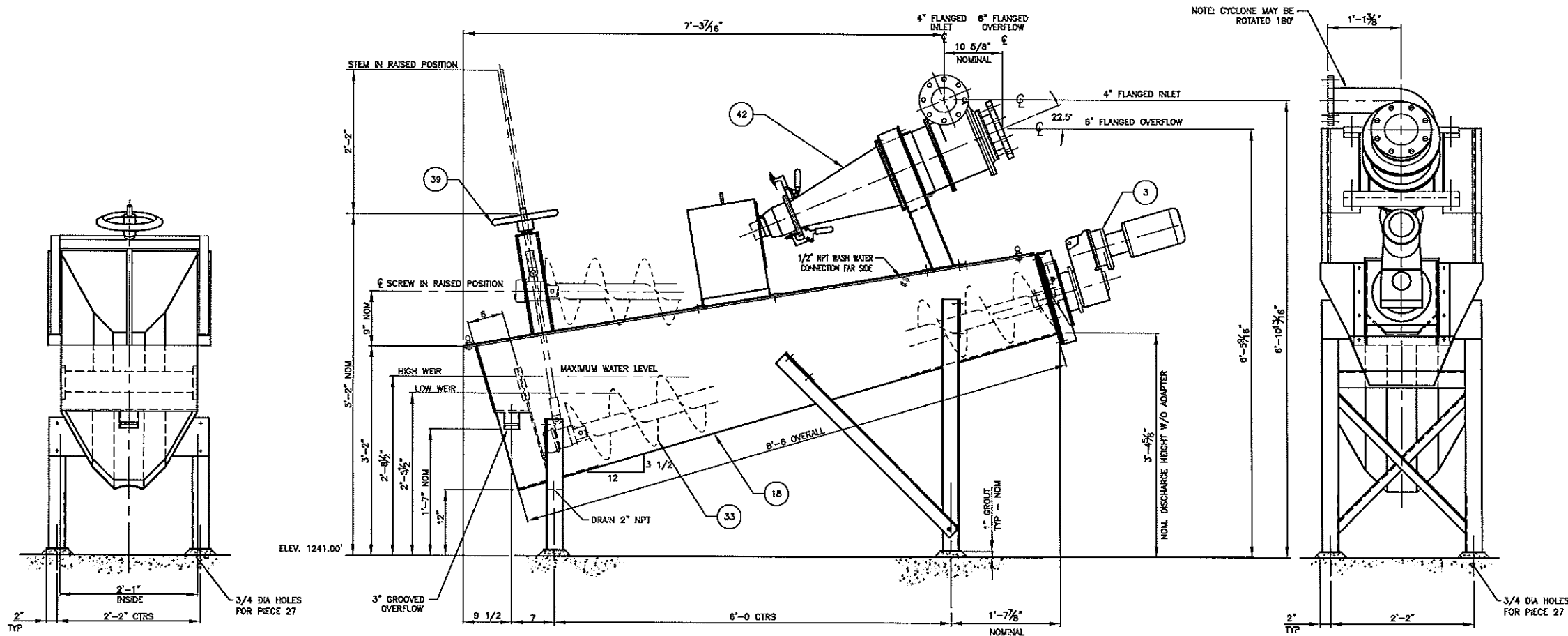
GENERAL SHOP DRAWING

GENERAL NOTES:

- SURFACE PREPARATION, PAINTING AND PROTECTIVE COATINGS
 - FABRICATED STEEL-NON IMMERSION: COMMERCIAL BLAST CLEAN SSPC-SP8 FOR SYSTEM 66-1 TNEPEC PAINT PRIME COAT: 66-1211 EPOXY PRIMER 3-5, W/SHS COAT: IN FIELD BY OTHERS
 - FABRICATED STEEL IMMERSION SERVICE: COMMERCIAL BLAST CLEAN SSPC-SP10 FOR SYSTEM 66-1 TNEPEC PAINT PRIME COAT: 66-1211 EPOXY PRIMER 3-5, W/SHS COAT: IN FIELD BY OTHERS
 - SCREW, IF DIFFERENT FROM 1.A.: BLAST AND PAINT PER SS-SP10 AND COAT WITH BITUMASTIC 300, 8-10 MIL DFT
 - ITEMS NOT TO BE PAINTED: GALVANIZED STEEL, STAINLESS STEEL, MACHINED SURFACES, FINISHED ITEMS
 - MACHINED SURFACES SHALL BE COATED WITH PROTECTIVE FILM OR GREASE AS DETERMINED BY SERVICE
- GROUTING OF EQUIPMENT TO BE DONE ONLY AFTER ALIGNMENT IS COMPLETED AND TEST RUN IS PERFORMED.
- EQUIPMENT LABOR AND MATERIALS FURNISHED BY OTHERS UNLESS OTHERWISE SPECIFIED, (I.E. NOT BY SCHLOSS ENGINEERED EQUIP.) UNLOADING, INSTALLATION & ERECTION, PIPING & WIRING, GROUT & GROUTING, MOTOR STARTERS & CONTROLS, SAFETY GUARDS OTHER THAN THOSE PROVIDED, ACCESS PLATFORMS & LADDERS AND ALL WARNING SIGNS INCLUDING BUT NOT LIMITED TO THE FOLLOWING: "DO NOT PUT HANDS OR TOOLS IN MOVING MACHINERY" & "CAUTION, THIS MACHINE CONTROLLED AUTOMATICALLY AND MAY START ANYTIME."
- ALL LUBRICANTS TO BE FURNISHED BY CONTRACTOR TO SUIT LOCAL CONDITIONS PER INSTALLATION INSTRUCTIONS.
- THIS DRAWING IS THE PROPERTY OF SCHLOSS ENGINEERED EQUIPMENT, INC. USE OF THIS DRAWING OR ANY INFORMATION THEREON FOR OTHER THAN ITS INTENDED PURPOSE IS EXPRESSLY PROHIBITED.
- PRESSURE GAUGE TO BE INSTALLED IN PIPE FLANGE UPSTREAM OF CYCLONE INLET - BY OTHERS
- CONTRACTOR TO PROVIDE VENT PIPING TO ATMOSPHERE ON OVERFLOW PIPING OF CYCLONE. ← PLEASE NOTE



PLAN VIEW
DRIVE OMITTED FOR CLARITY



OVERFLOW END ELEVATION

SIDE ELEVATION

DISCHARGE END ELEVATION

IDENTIFICATION		MATERIAL LIST				
GROUP	PIECE	QUANTITY	DWG. OR PART NO.	SPECIFICATION	REFERENCE	SYMBOL
				NAME, DESCRIPTION, MATERIAL		
1	ONE			TYPE 125W-CL GRIT WASHER, 12" DA X 8'-0"		
				EACH MACHINE CONSISTS OF THE FOLLOWING:		
3	ONE			DRIVE ASSEMBLY		
4	1			MOTOR, 1/2 HP, 1725 RPM, 3-60-230/480		
				FRAME SS, TFC, EXP PROOF		
6	1			REDUCER		
13	1			PMOT PLATE	HRS	
14	2			PMOT PLATE SUPPORT BRACKET	HRS	
15	1			PMOT SHAFT	304 SST	
18	ONE			TANK ASSEMBLY		
19	1			TANK W/FLARED SIDES, OPEN END DISCHARGE AND INTEGRAL OVERFLOW, 1/4" THK PLATE,	HRS	
21	1			OVERFLOW, 3" GOE	HRS	
22	1			TANK DRAIN, 2" NPT	HRS	
23	1			TANK SUPPORT, DISCHARGE END	HRS	
24	2			SUPPORT BRACE, OVERFLOW END	HRS	
25	2			SUPPORT BRACE, DISCHARGE END	HRS	
26	2			SUPPORT LEG, OVERFLOW END	HRS	
27	4			EPOXY ANCHOR, 5/8" X 7" LG - BY OTHERS	304 SST	
28	LOT			BOLTED EXPANDED METAL COVERS	304 SST	
30	4			EYE BOLT		
32	ONE			GRIT SCREW ASSEMBLY		
33	1			SECTIONAL SCREW, 12" DA, 3/16" THK FLIGHTS, RIGHT HAND FLIGHTS, 50% PITCH	STEEL	
35	4			COUPLING BOLTS	304 SST	
36	SET			WEAR SHOES, AR W/STAINLESS STEEL CSK BOLTS		
37	1			SEALED LOWER BEARING ASSEMBLY		
39	ONE			LIFTING DEVICE ASSEMBLY WITH HAND WHEEL		
40	1			STRUCTURAL SUPPORT		
41	1			THREADED ROD WITH HARDWARE		
44	ONE			SEWAGE DEGRITTING ASSEMBLY		
45	1			CYCLONE, KREBS D10LB-84S COMPLETE WITH GUM RUBBER LINERS, 4" VORTEX FINDER, 2" DA ADJUSTABLE APEX, 4" FLG. INLET, 6" FLG. OVERFLOW		
48	1			PRESSURE GAUGE AND DIAPHRAGM ASSEMBLY		
49	1			VALVE, SOLENOID, 120V, N.C., 3/8" NPT, NEMA 7	BRONZE	
50	1			VALVE, GLOBE, 3/8" NPT	BRONZE	
51	1			CYCLONE SUPPORT	HRS	
52	1			CYCLONE DISCHARGE SPLASH BOX	HRS	
54	LOT			ASSEMBLY FASTENERS	18-8 SST	
56	1			WASH WATER CONNECTION, 1/2" NPT, SCH 40	HRS	
60	LOT			SPARE PARTS		
61	1 SET			SEALS FOR REDUCER		
62	1			LOWER BEARING ASSEMBLY		

**CONFIDENTIAL
PRELIMINARY
FOR APPROVAL
NOT FOR CONSTRUCTION**

TITLE	12" DA SW-CL - GRIT CLASSIFIER/WASHER		
GENERAL ARRANGEMENT AND ASSEMBLY			
FOR: HAROLD D. THOMPSON RWRP, FOUNTAIN, CO			
ENGINEER: GMS, INC. - COLORADO SPRINGS, CO			
DATE	7/13/11	REV.	DATE
DESCRIPTION OF REVISION			
DESIGNED BY	GTW	CHECKED BY	GTW
APPROVED BY	CMS	DATE	
SCALE	1"=1'-0"		
PROJECT NO.	1757-11-C1		

SCHLOSS ENGINEERED EQUIPMENT, INC.
 AURORA, COLORADO - U.S.A.