

Welch®
Laboratory Vacuum Catalog
2005-2006

CHEMSTAR® Pumps & Accessories for
Corrosive Gases
Catalog Pages 24 & 25

ORDER ONLINE AT: www.cfpwarehouse.com or contact:

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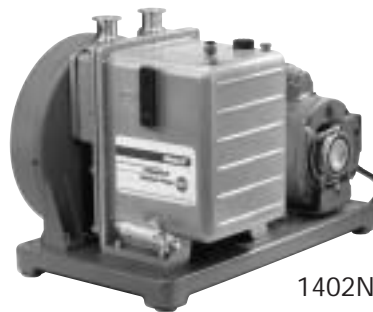
(800) 521-2083

CHEMSTAR® Pumps For Corrosive Gases

CHEMSTAR Vacuum Pumps

For Pumping Corrosive Gases

- HCl • O₃ • H₂SO₄
- HBr • HOAC • SO_x
- Br₂ • F₃CCO₂H • H₂S
- Cl₂ • CH₂O • HNO₃
- SF₆, CF₄ Fragments and other gases



1402N-01

The Five Defining Features Needed For Pumping Corrosive Gases

1. High Contamination Tolerance
 - Contaminants diluted • Fewer moving parts
 - Top oil feed for cleaner oil
2. Vital Parts Corrosion Resistant
 - Fluoroelastomer seals and gaskets • Metal vanes
 - Stainless steel valves, etc. • Teflon® coated oil case
3. Reduced Frictional Wear
 - Less than 580 RPM vs. typical 1750 RPM direct drive
4. Nitrogen Purge Standard
 - Degases and cools oil
5. Easy Attachment of Accessories
 - Complete accessory package for corrosive gases

Specifications¹.

Welch Model	1400N	1402N	1376N
Free Air Displacement			
CFM	0.9	5.6	10.6
L/min	25	160	300
Ultimate Pressure, Torr(mbar) ¹	1 x 10 ⁻⁴ (0.00013)	1 x 10 ⁻⁴ (0.00013)	1 x 10 ⁻⁴ (0.00013)
Gas Ballast	Yes	Yes	Yes
Pump RPM	580	525	525
Motor Horsepower (watts)	1/3(250)	1/2(370)	1(750)
Oil Capacity, qt. (liters)	0.62(0.59)	2.25(2.1)	2.5(2.37)
Tubing Needed, I.D. in.	7/16(11)	13/16(21)	13/16(21)
ISO Exhaust & Intake Flange	NW 16	NW 25	NW 25
Dimensions L x W x H in. (cm)	17.8 x 9 x 12.6 (45.2 x 22.9 x 32)	19.3 x 14.1 x 15.4 (49 x 35.3 x 39.1)	19.3 x 12.3 x 15.6 (49 x 31.2 x 39.6)
Weight, lbs (kg)	58(26)	112(51)	156(71)
Ship Weight, lbs (kg)	71(32.3)	133(60.5)	181(82.3)
Shipping Carton Dimensions L x W x H in. (cm)	20.5 x 13.8 x 14.5 (52.1 x 35.1 x 36.8)	22.5 x 15.5 x 19.5 (57.2 x 39.4 x 49.5)	22 x 18 x 19 (59.5 x 45 x 48)

Ordering Information^{2,3,5}.

Catalog Number			
Wired for 115V, 60Hz, 1 Ph with N. American 115V Plug	1400N-01	1402N-01	1376N-01
Explosion Proof Motor 115V, 60Hz, 1 Ph	1400N-90 ⁴	1402N-90 ⁴	-----
Wired for 230V, 60Hz, 1 Ph with N. American Plug	-----	1402N-60	1376N-60
Wired for 220V, 50Hz, 1 Ph with Cont. Euro. (Schuko) Plug	1400N-50 ⁶	1402N-50 ⁶	1376N-49
Wired for 100V 50/60Hz, 1 Ph for Japan	1400N-53	1402N-53	1376N-53

Notes:

1. CHEMSTAR pump should not be operated continuously at pressures above 10 Torr. Ultimate pressure measured with a trapped McCleod gauge.
2. All single phase motors have overload protection.
3. Conduit wiring installation required. No cord, plug or switch provided.
4. Hinged clamp, centering ring assembly and hose adapter are included with all CHEMSTAR Pumps.
5. Standard filter option possible if the exhaust flange is removed, but not chemically resistant.
6. Units supplied with CE marking.

Protective Accessories For Corrosive Gases

Protective Accessories For CHEMSTAR® PUMPS

- Heavy Corrosive Gas Loads
- Contaminated Exhaust Oil Mist
- Particulates In Gas Streams



- 1 Acid Neutralization Trap
- 2 Hermetically Sealed Oil Mist Eliminator
- 3 Make The Clear Choice



3

Acid Neutralization Traps



The Acid Neutralization Trap contains a large alkaline element cartridge to neutralize hydrous acids before they enter the vacuum pump. The element changes from white to bluish-transparent when spent and can be observed through the transparent trap body. Dimensions: 1420H-21, 8" W x 9" H; 1420H-20, 8" W x 13" H. (See CHEMSTAR application booklet for specific recommendations for use.)

ISO SIZE	CAPACITY	CATALOG NUMBER		
		TRAP	PUMP CONNECTOR KIT FOR TRAP ¹	REPLACEMENT ELEMENT
NW 16	To 2 CFM	1420H-21	1420K-16	1420E-02
NW 25	To 12 CFM	1420H-20	1420K-25	1420E-01

1. Includes hinge clamp, centering ring and elbow. Use with CHEMSTAR vacuum pumps.

Hermetically Sealed Oil Mist Eliminators



When attached to an effective exhaust line, the hermetically sealed oil mist eliminator prevents corrosive vacuum pump exhaust gases from escaping into the room. It also coalesces oil mist from the pump exhaust and allows it to drain back into the pump. Coalescing the oil mist prevents loss of oil and the frequent need to add expensive vacuum fluids. Stainless steel construction with borosilicate microfiber element and fluoroelastomer gaskets. Requires but does not include pump adapter kit. Dimensions of cat no. 1416D: 5" W x 7-3/4" H; 1416F, 5" W x 13-3/8" H. 1416D exhaust port accepts 13/16" I.D. hose.

USE WITH PUMP MODEL	CATALOG NUMBER		
	MIST ELIMINATOR	PUMP ADAPTER KIT	REPLACEMENT ELEMENT
1400N	1416D	1416E-01	1417Y-05
1402N, 1376N	1416D	1416E-02	1417Y-05

Make The Clear Choice



8995G-11

Pump oil Condition Color



Good



Bad(Possible Pump Damage)



The choice is clear. Pump oil can become contaminated with ingested fluids and vapors. Use recommended pump oil and change your pump oil regularly. Cloudy and discolored oil will lead to premature pump failure.

Make the clear choice and change your oil regularly.