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Find the *Welch Scientific 1402* at our website: ***Click HERE***

Belt Driven Oil-Seal Design Lowers RPM and Maintenance

- Freeze Drying
- Concentrating
- Vacuum Manifold / Schlenk Line
- Degassing
- Vacuum Distillations
- Vacuum Drying


1399N


1400


1405/1402

Specifications

Two - Stage Vacuum Pumps[1]

Welch Model	1400	1405	1402	1376	1397
Free Air Displacement					
cfm	0.9	3.2	5.6	10.6	17.7
l/min.	25	90	160	300	500
Ult. Pressure, torr(mbar)[1.]	1 x 10^{-4}(0.00013)	1 x 10^{-4}(0.00013)	1 x 10^{-4}(0.00013)	1 x 10^{-4}(0.00013)	1 x 10^{-4}(0.00013)
Gas Ballast	Yes	Yes	Yes	Yes	Yes
Pump RPM	580	525	525	525	400
Motor Horsepower (watts)	1/3(250)	1/2(370)	1/2(370)	1(750)	1(750)
Oil Capacity, qt.(liters)	0.62(0.59)	2.25(2.1)	2.25(2.1)	2.5(2.4)	1.25(1.2)
Tubing Needed, I.D. in.	7/16(11)	7/16(11)	13/16(21)	13/16(21)	1-5/8(41)
Intake, Nipple Thread	3/4-20	1-20	1-20	1-20	1.75-20
Exhaust, Thread Type	3/4-20	1-20	1-20	1-20	1.75-20
Weight, lbs. (kg)	58(26)	112(51)	112(51)	156(71)	205(93)
Overall Dimensions					
L in.(cm)	17.8(45.1)	20(51)	20(51)	20(51)	26(66)
W in.(cm)	9(22.9)	12(30.5)	12(30.5)	14.1(35.9)	13.7(34.8)
H in.(cm)	12.6(32.1)	15(38.1)	15(38.1)	15.4(39)	18.8(47.6)
Ship Weight, lbs.(kg)	70(31.8)	132(60)	132(60)	180(81.8)	213(96.8)
Shipping Carton Dimensions LxWxH in.(cm)	20.5x13.8x14.5 (52.1x35.1x36.8)	22.5x15.5x19.5 (57.2x39.4x49.5)	22.5x15.5x19.5 (57.2x39.4x49.5)	22x18x19 (55.9x45.7x48.3)	27.3x18x22 (69.3x45.7x55.9)

Ordering Information [4, 5, 6.]

Wired for 115V, 60Hz, 1 Ph with N. American 115V Plug	1400B-01[6.]	1405B-01[6.]	1402B-01[6.]	1376B-01	1397B-01
Wired for 230V, 60Hz, 1 Ph with N. American 230V Plug	1400C-01	1405C-01	1402C-01	---	---
Wired for 220V, 50Hz, 1 Ph w/Cont. Euro. (Schuko) Plug	1400C-02	1405C-02	1402C-02	1376C-03	1397C-03
Explosion Proof Motor, 115V, 60 Hz	1400W-01[5.]	1405W-01[5.]	1402W-01[5.]	---	---
3-Phase Motor 230V, 460V, 60Hz	---	---	1402M-01	1376M-01	1397M-01

Notes:

1. Two-stage pumps should not be operated continuously at pressures above 10torr. Ultimate pressure measured with a trapped McCleod gauge.
2. One-stage pumps should not be operated continuously at pressures above 50torr.
3. All 115V and 230V single phase motors include thermal overload protection.
4. Models 1400C-02, 1405C-02 and 1402C-02 provided with CE marking.

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1376



1397/1374

	One - Stage Vacuum Pumps[2]	
	w/o plate	w/bell jar plate
1374	**1399**	**1399N**
23	1.2	1.2
650	35	35
1 x 10^{-4}(0.00013)	1.5 x 10^{-2}(0.019)	1.5 x 10^{-2}(0.019)
Yes	No	No
510	750	750
1-1/2(1120)	1/3(250)	1/3(250)
1.25(1.2)	0.5(0.47)	0.5(0.47)
1-5/8(41)	7/16(11)	7/16(11)
1.75-20	3/4-20	3/4-20
1.75-20	3/4-20	3/4-20
220(100)	51(23)	63(28.6)
26(66)	17(43.2)	17(43.2)
13.7(34.8)	9(22.9)	9(22.9)
18.8(47.6)	10(25.4)	10(25.4)
215(97.7)	62(28.2)	74(33.6)
27.3x18x22 (69.3x45.7x55.9)	20.5x13.8x14.5 (52.1x35.1x36.8)	20.5x13.8x14.5 (52.1x35.1x36.8)
1374B-01[5.]	1399B-01	1399N-01
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---	1399C-02	---
---	---	---
1374M-01	---	---

5. Conduit wiring installation required. No cord, plug or switch provided.
6. CSA approved models are 1400B-80, 1405B-80 and 1402B-80.

Exhaust Filter

A replaceable filter element captures oil mist from the exhaust port of the pump and reduces pump noise.

Pump Model	CAT. No.
1399, 1400	1417
1376, 1402, 1405	1417P-10
1397, 1374	1417P-20



(See p. 43 for a complete list of filters)

Exhaust Oil Recycler

Use when pumping continuously above 1torr. Captures oil mist from the pump, and returns collected oil to the pump via a gas ballast connection.

Pump Model	CAT. No.	CFM
1400	1416H-01	3
1376, 1402, 1405	1416C-01	8



(See p. 43 for a complete list of filters)

Dry Ice/Liquid Nitrogen Trap

Recommended to protect pump from condensable vapors. Use either dry ice slurry or LN2 in the 3 quart center well.

Pump Model	CAT. No.
8890, 8905, 8907, 8912, 8917, 8920, 8925	1420H-14



(See p. 40 for Trap Selection Table)

DuoSeal™ Vacuum Pump Oil

Tested to high vacuum levels, this oil meets rigid requirements for vapor pressure, stability and viscosity.

Size	CAT. No.
Quart	1407K-11
Gallon	1407K-15
5 Gallon	1407K-20



Gold Vacuum Pump Oil

Specially formulated oil for challenging applications. This highly saturated synthetic oil is resistant to breakdown at higher temperature and is highly stable in chemical environments.

Size	CAT. No.
Liter	8995G-11
Gallon	8995G-15
5 Gallon	8995G-20



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