

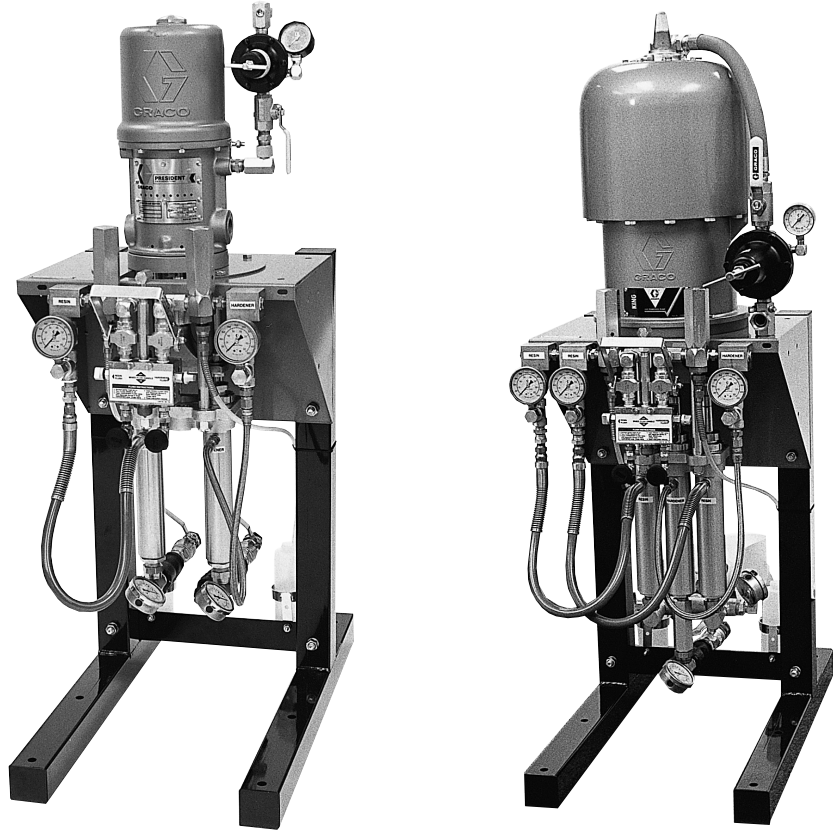


First choice when  
quality counts.™

# Fixed Ratio Hydra-Cat®

- **Severe Duty™ lowers for increased wear resistance and durability**
- **Two- and three-lower designs provide a wide variety of mix ratios**
- **Teflon packings are standard on Graco's Hydra-Cat lowers.**

**Two- and  
three-lower  
designs  
accurately  
pump and  
proportion  
two-component  
materials**



Fixed Ratio Hydra-Cat Proportioners accurately pump and proportion two-component materials by powering two or three positive displacement pump lowers from a common air motor. This assures that the stroke rate and stroke length of all pump lowers are identical, providing constant proportioning. The mix ratio is fixed by selecting compatible sets of two or three lowers as described below.

### **Two-Lower Design**

These proportioners use two identically-sized lowers driven from a common air motor through a connecting yoke. By incorporating identically-sized lowers for both A and B component materials, a consistent 1:1 mix ratio is achieved under a wide variety of conditions. Identically-sized lowers provide balanced pumping forces, and thus prevent premature packing wear.

### **Three-Lower Design**

A Graco proportioner with three lowers provides mix ratios above 1:1. Like the two-lower design Hydra-Cat, this design incorporates identically-sized lowers for balanced pumping. Two lowers are joined by a manifold to pump one component while a third (center) cylinder is used to pump the second component. In this manner, cylinders of various sizes can be selected to provide a wide variety of mix ratios while maintaining balanced pumping forces and optimum packing life. Hydra-Cats with three lowers are available for mix ratios up to 6.4:1.



## Graco Standard Series Hydra-Cat Proportioners

In using the charts below, Fluid to Air Ratio refers to the Fluid Pressure to Inbound Air Pressure. Fluid Flow is always measured at 40 cpm. Under each mix ratio, choose the Fluid to Air Ratio and Fluid Flow for each application. The proportioners shown on this page comprise Graco's Standard Series of Hydra-Cat proportioners. A larger High Capacity Series is available for higher flows. See High Capacity Hydra-Cats.

### Commonly Used Mix Ratios

#### 1:1 Mix Ratio

Fluid to Air Ratio	Fluid Flow		Lower ID Code	Air Motor	Stand	Wall	Bare
	gpm	lpm					
13:1	1.5	5.7	2 • 2	President	231-618	231-593	231-643
19:1	1.0	3.8	7 • 7	President	231-620	231-595	231-645
35:1	1.8	6.7	2 • 2	Bulldog	231-865	231-836	231-897

#### 2:1 Mix Ratio

Fluid to Air Ratio	Fluid Flow		Lower ID Code	Air Motor	Stand	Wall	Bare
	gpm	lpm					
13:1	1.5	5.7	777	President	231-632	231-607	231-657
23:1	2.6	10.0	222	Bulldog	231-876	231-847	231-908
35:1	1.8	6.7	777	Bulldog	231-878	231-849	231-910

#### 3:1 Mix Ratio

Fluid to Air Ratio	Fluid Flow		Lower ID Code	Air Motor	Stand	Wall	Bare
	gpm	lpm					
26:1	2.3	8.9	272	Bulldog	231-880	231-851	231-912

#### 4:1 Mix Ratio

Fluid to Air Ratio	Fluid Flow		Lower ID Code	Air Motor	Stand	Wall	Bare
	gpm	lpm					
10:1	1.9	7.2	292	President	231-638	231-613	231-663
28:1	2.2	8.4	292	Bulldog	231-883	231-854	231-915
35:1	3.5	13.4	050	King	231-291	231-286	231-668

## High Capacity Hydra-Cats

The proportioners shown below incorporate pump assemblies used in Graco's line of single component equipment. They provide flow capabilities higher than Graco's standard series proportioners shown on the previous page. Available in air- or hydraulically-powered models.

Lower ID Code	Common Designation	Part No.	Area Sq. In. (sq. cm)
A	10:1 Bulldog	206-792	3,540 (22.84)
B	10:1 President	217-339	1,478 (9.54)
C	30:1 Bulldog	901-878	1,250 (8.07)
D	40:1 Bulldog	946-196	0,886 (5.72)

### 1:1 Mix Ratio - Air-Powered

Pressure Ratio	Fluid Flow @ 40 cpm		Lower ID Code (See note below)	Air Motor	Stand	Wall	Bare
	gpm	lpm					
5:1	4.0	15.1	B-B	President	—	—	207-914
5:1	11.0	41.6	A-A	Bulldog	952-802	—	—
13:1	1.5	5.7	2-2	President	—	—	208-851
13:1	5.0	18.9	B-B	Bulldog	224-544	—	224-567

### 1:1 Mix Ratio - Hydraulically-Powered

Pressure Ratio	Fluid Flow @ 40 cpm		Lower ID Code (See note below)	Air Motor	Stand	Wall	Bare
	gpm	lpm					
1.7:1	5.0	18.9	B-B	Viscount II	—	—	217-337

**Note:**

For **alpha** codes, use the chart at the top of this page.

For **numeric** codes, use the Pump Lower Identification chart on the How to Select a Hydra-Cat page.

## Foam-Cat®

Graco manufactures air- and hydraulically-powered foam systems incorporating high capacity proportioners. Foam-Cats are complete systems for dispensing spray, pour or froth foams. In addition to high capacity proportioners, Foam-Cats include heaters, heated hoses, guns and controls to insure a top quality foam product.

See Form No. 304-878 and 305-535 for details.

## Accessories

### Stainless Steel Lowers

Allow conversion of any Standard Series Hydra-Cat to 304 SST/Teflon packing lower construction. Lowers are dimensionally interchangeable with CS Severe Duty lowers.

Lower ID	Effective Cylinder Area Sq. In. (sq. mm)	Part No.
5	0.443 (286)	948-195
7	0.370 (239)	948-197

### Conversion/Repair Kits

Lower ID	Teflon w/CS Gland	Teflon/UHMWPE w/CS Gland	Teflon w/SST Gland
0	—	948-650	—
1	—	948-651	—
2	236-597	222-236	—
5	236-598	222-237	948-195
7	236-595	222-234	—
9	236-596	222-235	—

### 501-095 Inlet Valve Spring Load Conversion

Use with higher viscosity materials to provide faster inlet check valve closing.  
For use with pressure feed proportioners only.

### Pressure Monitor

Senses off-ratio condition by monitoring pressure in outlet lines. This monitor will detect ratio error due to lack of available material. Select operating pressure range and material of construction.

	Adjustable Pressure Range			CS	SST
	psi	MPa	bar	Part No.	Part No.
	90-150	0.6-1.035	6-10.35	954-637	954-688

# Technical Specifications

- Air operating range . . . . . 40-100 psi (0.3-0.7 MPa, 3-7 bar)
- Maximum fluid outlet pressure . . . . . 3000 psi  
(20.4 MPa, 204 bar)
- Maximum fluid inlet pressure\* . 750 psi (5.1 MPa, 51 bar)
- Maximum recommended cycle rate . . . . . 40 cpm
- Air consumption @ 100 psi (0.7 MPa, 7 bar), 40 cpm
  - President . . . . . 20 scfm (.56 m<sup>3</sup>/min.)
  - Bulldog . . . . . 60 scfm (1.7 m<sup>3</sup>/min.)
  - King . . . . . 110 scfm (3.1 m<sup>3</sup>/min.)
- Wetted Parts . . . . . stainless steel, carbon steel,  
chrome plating, tungsten carbide, Teflon<sup>®</sup>

\* To ensure accurate mix ratios, inlet fluid pressure should not exceed 25% of the outlet fluid pressure.

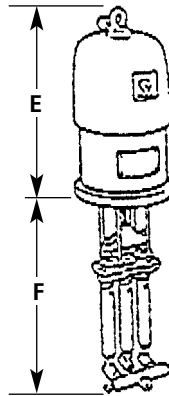
### Note:

When using proportioners having a pressure ratio above 30:1, inlet air pressure must be regulated below 100 psi (0.7 MPa, 7 bar) to limit fluid outlet pressure to a maximum of 3000 psi (20.4 MPa, 204 bar).

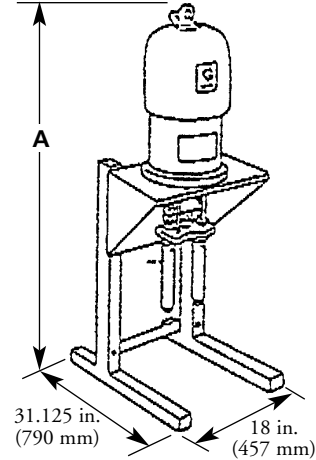
Teflon<sup>®</sup> is a registered trademark of Du Pont.

# Dimensions

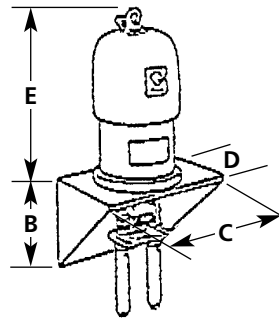
**Bare Proportioner**



**Floor-Stand**



**Wall-Mount**



Air Motor	Standard President	Standard Bulldog	Standard King	207-914	952-802	224-544 224-567	947-314
A	48 in. (1219 mm)	67 in. (1702 mm)	67 in. (1702 mm)	48 in. (1219 mm)	67 in. (1702 mm)	67 in. (1702 mm)	N/A
B	9.38 in. (238 mm)	9.38 in. (238 mm)	9.38 in. (238 mm)	8 in. (203 mm)	9.38 in. (238 mm)	N/A	N/A
C	18 in. (457 mm)	18 in. (457 mm)	18 in. (457 mm)	11 in. (279 mm)	18 in. (457 mm)	N/A	N/A
D	12.5 in. (318 mm)	12.5 in. (318 mm)	12.5 in. (318 mm)	10.5 in. (267 mm)	12.5 in. (318 mm)	N/A	N/A
E	15.5 in. (394 mm)	22 in. (559 mm)	22 in. (559 mm)	15.5 in. (394 mm)	22 in. (559 mm)	22 in. (559 mm)	22 in. (559 mm)
F	23 in. (584 mm)	23 in. (584 mm)	23 in. (584 mm)	21 in. (533 mm)	N/A	25 in. (635 mm)	25 in. (635 mm)
Fluid Inlet	3/4 npt(m)	3/4 npt(m)	3/4 npt(m)	3/4 npt(f) & 1 npt(m)	2 npt(f)	3/4 npt(f) & 1 npt(m)	1 npt(f)
Fluid Outlet	3/8 npt(f)	3/8 npt(f)	3/8 npt(f)	1/2 npt(f)	1 npt(f)	1/2 npt(f)	3/4 npt(f)
Air Inlet	1/2 npt(f)	3/4 npt(f)	3/4 npt(f)	1/2 npt(f)	3/4 npt(f)	3/4 npt(f)	3/4 npt(f)
Weight 2 Cyl.	65 lbs. (30 kg)	88 lbs. (40 kg)	90 lbs. (41 kg)	65 lbs. (29.5 kg)	-	-	-
Weight 3 Cyl.	74 lbs. (34 kg)	97 lbs. (44 kg)	99 lbs. (45 kg)	-	-	-	-
Weight	-	-	-	-	350 lbs. (159 kg)	125 lbs. (57 kg)	300 lbs. (137 kg)