

## By-Pass Hose with Fittings

### Brass Models

7090, 7091, 7093

### Stainless Steel Models

7094, 7098

### FEATURES

- Flexible hose reduces pulsation in by-pass line.
- Absorbs pressure spikes from the regulating device while in by-pass.
- Helps prolong the life of the pump seals and pump liquid end.
- Designed for easy, compact installation.
- Optional assembly with 145°F Thermo Valve for added protection.

### SPECIFICATIONS

	U.S. Measure	Metric Measure
<b>MODEL 7094 3/8" x 3/8" STAINLESS STEEL</b>		
Maximum Flow .....	3.5 GPM	(13.2 L/M)
Hose Pressure Rating .....	300 PSI	(21 BAR)
Maximum Temperature .....	160°F	(71°C)
Hose Connection .....	3/8" NPTM	(3/8" NPTM)
Elbow Fittings (Manifold) .....	3/8" NPTM x 3/8" NPTF	(3/8" NPTM x 3/8" NPTF)
Hose Barb (Unloader) .....	3/8" NPTM x 3/8" Pushlok	(3/8" NPTM x 3/8" Pushlok)
Length .....	24"	(609 mm)
Weight .....	13.09 oz.	(.37 kg)

**7094.36 By-Pass with RTP 145°F Thermo Valve**

<b>MODEL 7098 1/2" x 1/2" STAINLESS STEEL</b>		
Maximum Flow .....	8.0 GPM	(30 L/M)
Hose Pressure Rating .....	300 PSI	(21 BAR)
Maximum Temperature .....	160°F	(71°C)
Hose Connection .....	1/2" NPTM	(1/2" NPTM)
Elbow Fittings (Manifold) .....	1/2" NPTM x 1/2" NPTF	(1/2" NPTM x 1/2" NPTF)
Hose Barb (Unloader) .....	1/2" NPTM x 1/2" Pushlok	(1/2" NPTM x 1/2" Pushlok)
Length .....	37"	(940 mm)
Weight .....	23.58 oz.	(.67 kg)

**7097.37 By-Pass with RTP 145°F Thermo Valve**

### SPECIFICATIONS

	U.S. Measure	Metric Measure
<b>MODEL 7090 1/4" x 3/8" BRASS</b>		
Maximum Flow .....	3.5 GPM	(13.2 L/M)
Hose Pressure Rating .....	300 PSI	(21 BAR)
Maximum Temperature .....	160°F	(71°C)
Hose Connection .....	1/4" NPTM	(1/4" NPTM)
Hose Connection (Swivel) .....	3/8" SAEF 45°	(3/8" SAEF 45°)
Elbow Fittings (Manifold) .....	1/4" NPTM x 1/4" NPTF	(1/4" NPTM x 1/4" NPTF)
Elbow Fittings (Unloader) .....	3/8" NPTM x 3/8" Pushlok	(3/8" NPTM x 3/8" Pushlok)
Length .....	15"	(381 mm)
Weight .....	6.89 oz.	(.20 kg)

**7090.40 By-Pass with Brass 145°F Thermo Valve**

**7090.35 By-Pass with RTP 145°F Thermo Valve**

<b>MODEL 7091 3/8" x 1/2" BRASS</b>		
Maximum Flow .....	5.0 GPM	(19 L/M)
Hose Pressure Rating .....	200 PSI	(14 BAR)
Maximum Temperature .....	160°F	(71°C)
Hose Connection .....	3/8" NPTM	(3/8" NPTM)
Hose Connection (Swivel) .....	1/2" SAEF 45°	(1/2" SAEF 45°)
Elbow Fittings (Manifold) .....	3/8" NPTM x 3/8" NPTF	(3/8" NPTM x 3/8" NPTF)
Elbow Fittings (Unloader) .....	3/8" NPTM x 1/2" SAEM 45°	(3/8" NPTM x 1/2" SAEM 45°)
Length .....	24"	(610 mm)
Weight .....	12.57 oz.	(.36 kg)

**7091.41 By-Pass with Brass 145°F Thermo Valve**

**7091.36 By-Pass with RTP 145°F Thermo Valve**

<b>MODEL 7093 1/2" x 1/2" BRASS</b>		
Maximum Flow .....	8.0 GPM	(30 L/M)
Hose Pressure Rating .....	200 PSI	(14 BAR)
Maximum Temperature .....	160°F	(71°C)
Hose Connection .....	1/2" NPTM	(1/2" NPTM)
Hose Connection (Swivel) .....	1/2" SAEF 45°	(1/2" SAEF 45°)
Elbow Fittings (Manifold) .....	1/2" NPTF x 1/2" NPTF	(1/2" NPTF x 1/2" NPTF)
Elbow Fittings (Unloader) .....	1/2" NPTM x 1/2" SAEM 45°	(1/2" NPTM x 1/2" SAEM 45°)
Length .....	24"	(609 mm)
Weight .....	16.78 oz.	(.48 kg)

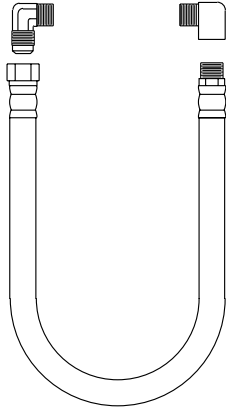
**7093.42 By-Pass with Brass 145°F Thermo Valve**

**7093.37 By-Pass with RTP 145°F Thermo Valve**

*"Customer confidence is our greatest asset"*

## EXPLODED VIEW

### By-Pass Hose with Fittings



## PARTS LIST

ITEM	P/N	MATL	DESCRIPTION	QTY
—	7090	BB	By-Pass Hose w/Brass Fittings	1
—	7091	BB	By-Pass Hose w/Brass Fittings	1
—	7093	BB	By-Pass Hose w/Brass Fittings	1
—	7094	SS	By-Pass Hose w/Stainless Steel Fittings	1
—	7098	SS	By-Pass Hose w/Stainless Steel Fittings	1

Material Codes (Not Part of Part No.): BB=Brass SS=316 Stainless Steel

**SELECTION:** The By-pass Hose Assembly connects the by-pass of the unloader directly to the inlet of the pump through the special by-pass port on the underside of the inlet manifold on the 2SF and 4SF pumps or standard inlet port on 3CP, 5CP 5PFR and 7PFR pumps.

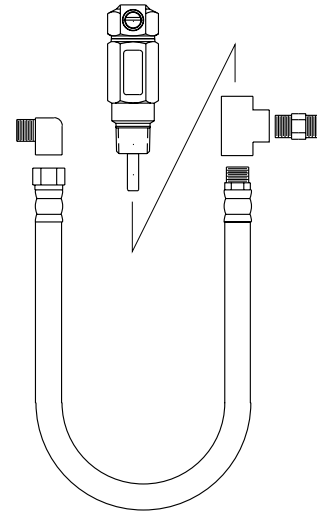
**INSTALLATION:** Match the hose size with the pump and unloader fittings. Do not under size. **DO NOT USE WITH REGULATOR OR UNLOADER WITHOUT CHECK VALVE.** First thread one **male elbow** into the **inlet manifold port**. Then thread the other **male elbow** into the **by-pass port of the unloader**. Next thread the **hose** into female elbow on **inlet manifold**.

Connect the **swivel-end of hose** to the elbow from **unloader by-pass**. As an added safety precaution, a **Thermo Valve®** should be installed to protect the pump in the event the unit is accidentally left in by-pass for an excessive period. For the Thermo Valve, the unloader elbow is replaced with a Tee and Nipple.

**OPERATION:** Caution should be exercised when routing the by-pass liquid to the inlet of the pump. The higher the initial

## EXPLODED VIEW

### By-Pass Hose with Fittings and Thermo Valve



## PARTS LIST

ITEM	P/N	MATL	DESCRIPTION	QTY
—	7090.40	BB	By-Pass Hose w/Brass Thermo Valve	1
—	7090.35	RTP	By-Pass Hose w/RTP Thermo Valve	1
—	7091.41	BB	By-Pass Hose w/Brass Thermo Valve	1
—	7091.36	RTP	By-Pass Hose w/RTP Thermo Valve	1
—	7093.42	BB	By-Pass Hose w/Brass Thermo Valve	1
—	7093.37	RTP	By-Pass Hose w/RTP Thermo Valve	1
—	7094.36	SS	By-Pass Hose w/RTP Thermo Valve	1
—	7097.37	SS	By-Pass Hose w/RTP Thermo Valve	1

Note: See Individual Data Sheet for Thermo Valves.

Material Codes (Not Part of Part No.): BB=Brass  
RTP=Reinforced Composite SS=316 Stainless Steel

temperature of the system liquid, the **shorter the time needed to build-up excessive temperature**. High temperature applications should use a Thermo Valve in the by-pass line or route the by-pass to a baffled reservoir.

### CAUTION:

By-Pass Hose Assembly is designed for **cold water or ambient temperature** operation. **DO NOT EXCEED 6 MINUTES IN BY-PASS** operation. Excessive temperatures will cause premature wear or damage to the pump and **VOID THE WARRANTY**.

**MAINTENANCE:** If hose develops leaks, bulges or cracks, replace with new hose immediately.

## WARRANTY

### 90 Day Warranty

Refer to complete CAT PUMPS Warranty for further information.

### World Headquarters

#### CAT PUMPS

1681 - 94th Lane N.E. Minneapolis, MN 55449-4324

Phone (763) 780-5440 — FAX (763) 780-2958

e-mail: techsupport@catpumps.com

www.catpumps.com

### International Inquiries

FAX (763) 785-4329

e-mail: intl@catpumps.com



The Pumps with Nine Lives

### CAT PUMPS (U.K.) LTD.

1 Fleet Business Park, Sandy Lane, Church Crookham

FLEET, Hampshire, GU52 8BF, England

Phone Fleet 44 1252-622031 — Fax 44 1252-626655

e-mail: sales@catpumps.co.uk

### N.V. CAT PUMPS INTERNATIONAL S.A.

Heiveldekens 6A, B-2550 Kontich, Belgium

Phone 32-3-450.71.50 — Fax 32-3-450.71.51

e-mail: cpi@catpumps.be www.catpumps.be

### CAT PUMPS DEUTSCHLAND GmbH

Buchwiese 2, D-65510 Idstein, Germany

Phone 49 6126-9303 0 — Fax 49 6126-9303 33

e-mail: catpumps@t-online.de www.catpumps.de