

L/S® Standard Pump Heads

Features/Benefits

- Ideal for fluid transfer applications where accuracy and repeatability are important
- Tubing enters/exits on top of pump head
- Deliver flow rates from 0.06 to 2900 mL/min
- Precision molded housing and tubing cavity
- Each pump head is designed for one size of tubing—ensuring optimal occlusion and performance
- Adapts easily to OEM applications
- Interchangeable
- Multichannel pumping

Selection Criteria

1. Flow rate/tube size desired.
 2. Materials of construction.
 3. Compatibility with drives.
- See specifications for more information.

Order tubing and drives separately.

Compatibility with Drives

- Mount on all drives accepting Masterflex® L/S® pump heads

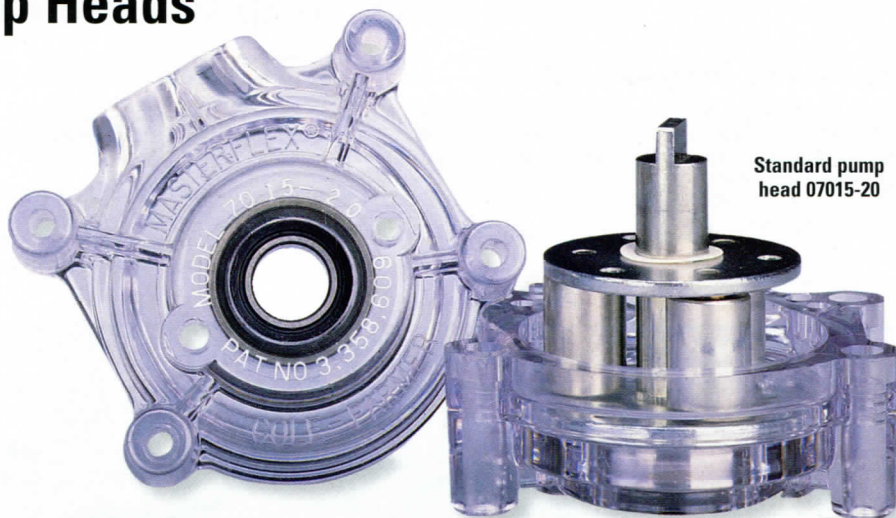
Pump Housing Specifications

Clear polycarbonate (PC)

- General-purpose applications
- Pump head operation visible through housing
- Select from CRS/Buna N or 300-series SS/PTFE shielded ball-bearing

Polyphenylene sulfide (PPS)

- Best protection from corrosive liquids/vapors
- 300-series stainless steel shielded ball-bearing



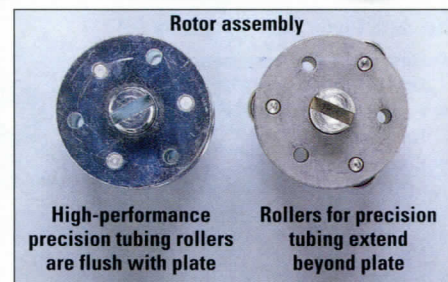
Standard pump head 07015-20



End bell assemblies

PC/CRS

PPS/SS



Rotor assembly

High-performance precision tubing rollers are flush with plate

Rollers for precision tubing extend beyond plate

Roller/Rotor Specifications

Plated cold-rolled steel (CRS)

- General-purpose applications
- Ball-bearing construction
- Continuous duty up to 600 rpm

300-series stainless steel (SS)

- Corrosive fluids
- Shielded ball-bearing construction (highest life expectancy)
- Continuous duty up to 600 rpm

Ordering Information

Tubing size	PC housing		PPS housing
	CRS rotor	SS rotor	SS rotor
For Precision tubing			
L/S® 13	LJ-07013-20	LJ-07013-21	LJ-07013-52
L/S® 14	LJ-07014-20	LJ-07014-21	LJ-07014-52
L/S® 16	LJ-07016-20	LJ-07016-21	LJ-07016-52
L/S® 17	LJ-07017-20	LJ-07017-21	LJ-07017-52
L/S® 18	LJ-07018-20	LJ-07018-21	LJ-07018-52
For High-performance precision tubing			
L/S® 15	LJ-07015-20	LJ-07015-21	LJ-07015-52
L/S® 24	LJ-07024-20	LJ-07024-21	LJ-07024-52
L/S® 35	LJ-07035-20	LJ-07035-21	—
L/S® 36	LJ-07036-30	LJ-07036-31	—

PC = polycarbonate PPS = polyphenylene sulfide
CRS = cold-rolled steel SS = stainless steel

ISO 9001:2000
SUPPLIER CERTIFIED

2 year
warranty

Masterflex® L/S® Pump Tubing Specifications & Flow Rate Information

Order Masterflex® L/S® pump tubing separately on pages 60–63.

Tubing cross sections		L/S® Precision pump tubing					L/S® High-performance precision pump tubing			
		L/S® 13	L/S® 14	L/S® 16	L/S® 17	L/S® 18	L/S® 15	L/S® 24	L/S® 35	L/S® 36
Flow rate—mL/rev		0.06	0.21	0.8	2.8	3.8	1.7	2.8	3.8	4.8
mL/min @ 600 rpm		36	130	480	1700	2300	1000	1700	2300	2900
Max pressure	Continuous	1.7 bar (25 psi)			1.0 bar (15 psi)	0.7 bar (10 psi)	1.7 bar (25 psi)		1.4 bar (20 psi)	1.0 bar (15 psi)
	Intermittent	2.7 bar (40 psi)			1.4 bar (20 psi)	1.0 bar (15 psi)	2.7 bar (40 psi)		2.4 bar (35 psi)	1.4 bar (20 psi)
Max vacuum*		660 mm Hg (26" Hg)			510 mm Hg (20" Hg)		660 mm Hg (26" Hg)			
Suction lift		8.8 m H ₂ O (29 ft H ₂ O)			6.7 m H ₂ O (22 ft H ₂ O)		8.8 m H ₂ O (29 ft H ₂ O)			

*Actual performance varies depending upon tubing materials—see pages 20–23 and 158–177 for more information.

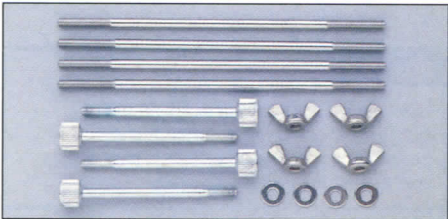
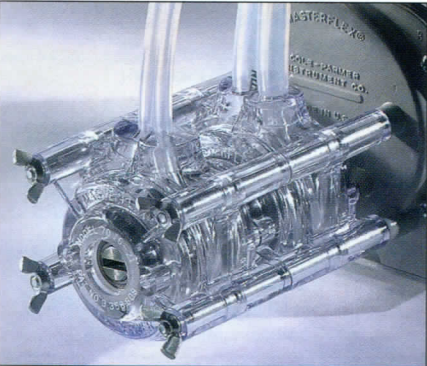
Specifications for L/S® Standard Pump Heads

Catalog number	LJ-070XX-20 and -30 Series	LJ-070XX-21 and -31 Series	LJ-070XX-52 Series
Performance Specifications			
Flow capacity	0.06 to 2900 mL/min (0 to 46 GPH)*		
Max rpm	600		
Number of rollers	3		
Torque Specifications** [a single head pumping water at 0 psi, 21°C (70°F)]			
Norprene®, PharMed® BPT	Starting torque	18.0 kg-cm (250 oz-in)	
	Running torque	5.8 kg-cm (80 oz-in)	
Tygon®, Viton®	Starting torque	27.7 kg-cm (385 oz-in)	
	Running torque	4.6 kg-cm (64 oz-in)	
C-FLEX®, Silicone	Starting torque	5.8 kg-cm (80 oz-in)	
	Running torque	2.2 kg-cm (30 oz-in)	
Physical Specifications			
Housing material	Clear polycarbonate		Polyphenylene sulfide
Rotor material	Cold-rolled steel	Stainless steel	
Operating temperature	0 to 40°C (32 to 104°F)		
Shipping weight	0.54 kg (1.18 lb)		

*Depending on pump head selected.
**Actual torque depends on tubing size formulation.
For complete torque data, please see pages 158–177.

Multichannel Capabilities

Mount up to four pump heads depending on the drive. Order hardware based on the number of pump heads to be mounted.



Mounting hardware
07013-04 (one) and 07013-05 (two channel)

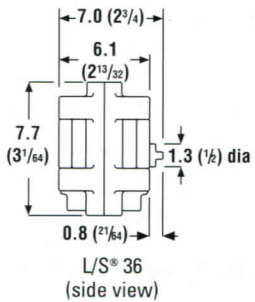
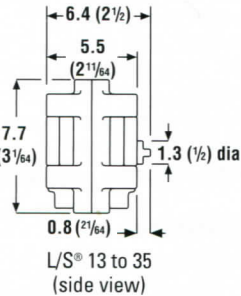
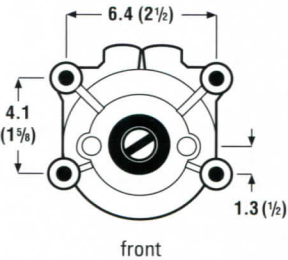
Hardware for Standard Heads, L/S® 13 to 35

Heads to be mounted	Catalog number/set
One	LJ-07013-04
Two	LJ-07013-05
Three	LJ-07013-08
Four	LJ-07013-09

Hardware for Standard Heads, L/S® 36

Heads to be mounted	Catalog number/set
One	LJ-07036-01
Two	LJ-07036-02

Dimensional Drawings cm (in.)
L/S® Standard Pump Head



NOTE

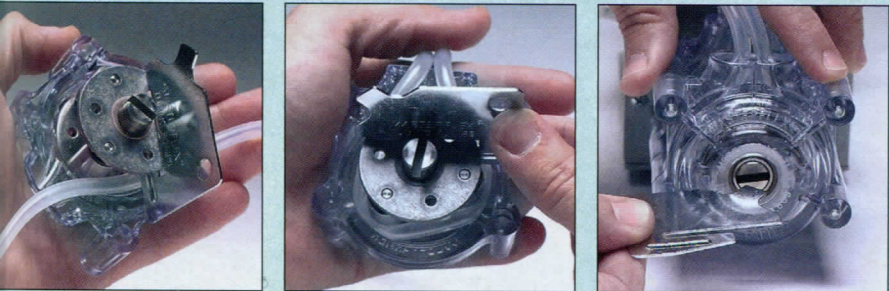
The design of the Standard pump head enables the most precise dispensing accuracy of any Masterflex® pump head.

L/S® Tubing.....60–63
L/S® Drives64–99
L/S® Pump Systems100–107

Accessories.....148–157

Technical Data158–190

How to Load Your Pump Head



1. Disassemble pump head.
Load tubing.

2. Use the loading key (included)
to ensure proper tubing
alignment and tension.

3. Reassemble two halves and
mount on drive.