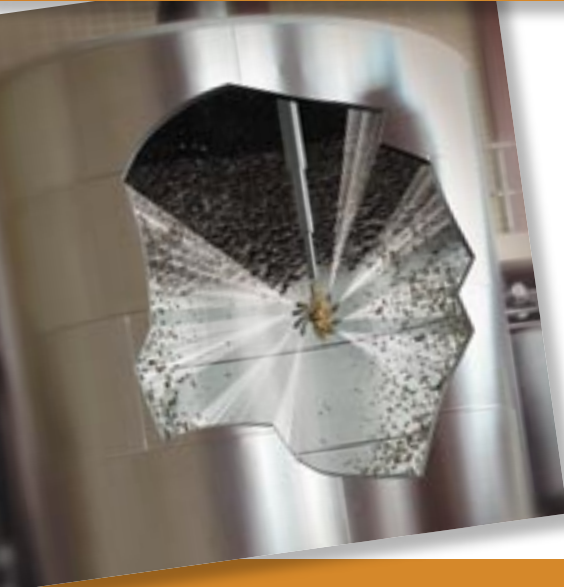


# Tank Cleaning



NLB's 3-D tank cleaning dramatically reduces tank cleaning time, respects the environment, and eliminates the need for anyone to enter a confined space. The dual cleaning action of the revolving/rotating head, powered by the reaction force of the high-pressure water jets, provides complete, 360° interior coverage of your tank or reactor.

NLB's 3750 3-D heads have been removing the toughest chemical and resin build-up for decades

— everything from ABS and PVC to baked-on coke. Some customers have reduced man-hours by as much as 80 percent, while others report that they clean 6 times as many tanks or totes with water jets as with caustics or solvents.

We offer a complete system, with a selection of **3-D heads** and **telescopic lances** plus **swivel turrets**, **protective cages**, and a variety of **nozzle arms** and **extensions** to suit practically any application.

## NEW 3750 HEADS — 3-D CLEANING PLUS LONGER LIFE

The latest NLB 3750 3-D heads are designed for greater productivity than ever, with triple the seal life and significantly shorter rebuild times. The new NLB3750-85 and NLB3750-110 also feature stainless steel bodies for durability and easy cleaning.

NLB3750 series heads have proven themselves over the years in countless tank cleaning applications. They offer a wide range of pressures and flows, and some models can be ordered in bronze or lightweight aluminum.

### Features include:

- Operating pressures from 3,000 to 20,000 psi (210 to 1,400 bar)
- Flows from 13-110 gpm (49-416 lpm)
- Replaceable seal for long life and easy maintenance

## NLB 3750

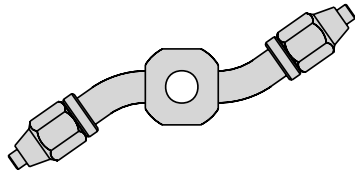


Model No.	Operating Pressure	Flow Rate	Inlet Connection	Weight	Length	Min. Width	Max. Width
NLB3750-40-20K	3,000 - 20,000 psi (210-1,400 bar)	13-40 gpm (49-151 lpm)	3/4" M/P	Bronze: 23 lbs. (10 kg)	14-1/4" (36.2 cm)	6-1/2" (16.5 cm)	9-11/16" (24.6 cm)
NLB3750-40	4,000 - 13,000 psi (275-900 bar)	15-50 gpm (57-189 lpm)	1/2"-14 NPT	Bronze: 23 lbs. (10 kg) Aluminum: 15.5 lbs. (7.0 kg)	13-1/2" (34.3 cm)	6" (15.2 cm)	12" (30.5 cm)
NLB3750-85	4,000 - 13,000 psi (275-900 bar)	80 gpm (302 lpm)	3/4"-14 NPT Standard or 1-1/4"- 11-1/2 NPT Optional	Stainless Steel: 48 lbs. (22 kg)	20" (50.8 cm)	8" (20.3 cm)	14" (35.6 cm)
NLB3750-110	4,000 - 8,000 psi (275-550 bar)	110 gpm (416 lpm)	1-1/4"- 11-1/2 NPT	Stainless Steel: 48 lbs. (22 kg)	20" (50.8 cm)	8" (20.3 cm)	14" (35.6 cm)

Nozzle size and rotor offsets are determined by the supply pump rating and pressure available at the 3-D head inlet. Consult NLB for proper nozzle sizes and rotor offsets to suit your application.

To order a 3-D head in aluminum, add "-AL". **Example:** NLB3750-40-AL.

## Standard "S" Arms\*

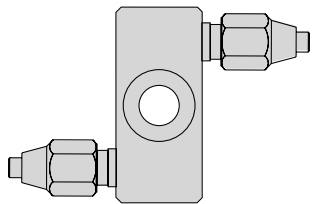


Model No. <sup>1</sup>	Use With	Offsets <sup>2</sup>
CA7064-XX	NLB3750-85/110	15-90 mm
DA8523-XX	NLB3750-40	4-20 mm

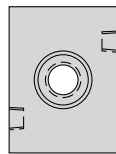
<sup>1</sup> Last 2 digits in model number denote offset angle.

<sup>2</sup> Offsets available in 5mm increments; consult NLB for proper sizing.

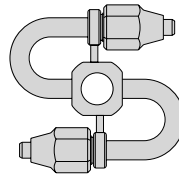
## Compact Arms\*



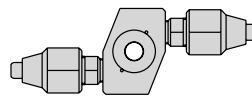
DA11510-XX



BA8149-XX  
CA8522 -XX



CA13600-XX



CM16114-XX

Model No. <sup>1</sup>	Use With	Offsets <sup>2</sup>
DA11510-XX	NLB3750-85/110	15-55 mm
BA8149-XX	NLB3750-85/110	15-90 mm
CA13600-XX	NLB3750-85/110	45-70 mm
CA8522-XX	NLB3750-40	10-55 mm
CM16114-XX	NLB3750-40-20K	15-48 mm

<sup>1</sup> Last 2 digits in model number denote offset angle.

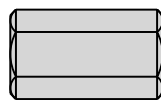
<sup>2</sup> Offsets available in 5mm increments; consult NLB for proper sizing. Custom configurations are available.

## Extension Arms\*

- Used for large diameter vessels
- Puts nozzles closer to surface to be cleaned
- Greater flow stabilization
- Used with standard "S" arm



Extension Arm



Adapter

To add an extension arm to an "S" arm with a 13,000 psi 3-D head, use Adapter CN7278. For a 20,000 psi 3-D head, use Adapter CN7280.

\*For a complete list of the components required for arm configuration, please contact NLB.

Model No.	Length
<b>Up to 13,000 psi (900 bar)</b>	
BN7279-12	12" (31 cm)
BN7279-18	18" (46 cm)
BN7279-24	24" (61 cm)
BN7279-30	30" (76 cm)
<b>Up to 20,000 psi (1,400 bar)</b>	
BM16700-12	12" (31 cm)
BM16700-18	18" (46 cm)
BM16700-24	24" (61 cm)
BM16700-30	30" (76 cm)



# Tank Cleaning

## Swivel Turret

A Lance Swivel Turret (NLB5996) is generally used in small vessels to move the cleaning head into the required working position. The aluminum turret has three movements:

- Extension/Retraction
- Inclination
- Rotation

The swivel turret will mount to a vessel's manway with a custom adapter. It can be used in vertical or horizontal applications.

*(NLB3750 head, shown in photo, is not included with Swivel Turret.)*



## Protective Cages



Model No.	Use With	Diameter
DA8141	NLB3750-85/110	12-1/4" (31 cm)
DA10185	NLB3750-40	10" (25 cm)
DM16288	NLB3750-40-20K	13" (32 cm)
DM16169	All	13-3/8" (34 cm)

## Automated Tank Cleaning Systems

For high-volume cleaning of tanks and totes, NLB custom-engineers automated systems to suit individual needs. For example, totes can enter a cabinet via conveyor, or rotate while the 3-D water jet heads do their job. A wide variety of totes and tanks can be accommodated; please consult NLB about your specific requirements.



## Ball and Socket

Model B4496, made of stainless steel, can be used instead of the Swivel Turret Assembly when cleaning small vessels. (Shown with optional manway adapter.)



# Telescopic Lances

A Telescopic Lance is used in large vessels and in areas where overhead height is limited. It features external handwheels to extend/retract, incline and rotate the 3-D head as needed. Custom-designed manway adapters are available to secure the lance to the vessel. Standard lance lengths range from 20" to 295" (5.1 to 7.5 m) to service vessels from 121" to 334" (3.1 to 8.5 m) in height. Custom-engineered sizes are also available, as are fully-automated telescopic lances.

## Features/benefits:

- Eliminates need for confined space entry
- Increases uptime by shortening cleaning cycle time
- Reduces manpower — can be operated by a single person
- Corrosion resistant
- External hand wheels for ease of nozzle placement
- Nozzle can be repositioned while under pressure

## Special options

**Lance Carts** are available to transport telescopic lances and raise them into position.

**Automated Telescopic Lances** are custom-designed to fit any tank, reactor or other vessel for between-batch cleaning. They are generally permanently attached to the vessel. Extension and retraction mechanisms can be electric, hydraulic or pneumatic.

The **Lightweight Telescopic Lance** has most of the same features as a standard NLB telescopic lance, but is made of aluminum and therefore weighs about 80% less. This makes it more maneuverable.

Please contact NLB for details of these special options.

## Standard Telescopic Lance

1. Manway Adapter Base
2. Inclination Tilting Handle
3. High-Pressure Hose
4. Hose Guide
5. Extension/ Retraction Handle
6. Base Rotation Handle
7. NLB 3750 Nozzle



Model No.	Min. Extension	Max. Extension	Vessel Height	Weight
TL3-35-3/4	33.9" (86 cm)	137.8" (3.5 m)	158-177" (4-4.5 m)	303 lbs. (138 kg)
TL3-45-3/4	46.9" (119 cm)	177.2" (4.5 m)	197-216" (5-5.5 m)	316 lbs. (143 kg)
TL3-55-3/4	59.8" (152 cm)	216.5" (5.5 m)	237-255" (6-6.5 m)	329 lbs. (149 kg)
TL3-65-3/4	72.2" (183 cm)	255.9" (6.5 m)	276-295" (7-7.5 m)	342 lbs. (155 kg)
TL4-35-3/4	20.9" (53 cm)	137.8" (3.5 m)	158-177" (4-4.5 m)	300 lbs. (136 kg)
TL4-45-3/4	30.7" (78 cm)	177.2" (4.5 m)	197-216" (5-5.5 m)	312 lbs. (142 kg)
TL4-55-3/4	40.6" (103 cm)	216.5" (5.5 m)	237-255" (6-6.5 m)	326 lbs. (148 kg)
TL4-65-3/4	50.4" (128 cm)	255.9" (6.5 m)	276-295" (7-7.5 m)	339 lbs. (154 kg)
TL4-75-3/4	60.2" (153 cm)	295.3" (7.5 m)	315-334" (8-8.5 m)	352 lbs. (160 kg)
TL4-35-1-1/4	26.0" (66 cm)	137.8" (3.5 m)	158-177" (4-4.5 m)	320 lbs. (145 kg)
TL4-45-1-1/4	35.8" (91 cm)	177.2" (4.5 m)	197-216" (5-5.5 m)	342 lbs. (155 kg)
TL4-55-1-1/4	45.7" (116 cm)	216.5" (5.5 m)	237-255" (6-6.5 m)	364 lbs. (165 kg)
TL4-65-1-1/4	55.5" (141 cm)	255.9" (6.5 m)	276-295" (7-7.5 m)	386 lbs. (175 kg)
TL4-75-1-1/4	65.4" (166 cm)	295.3" (7.5 m)	315-334" (8-8.5 m)	408 lbs. (185 kg)
Lightweight Telescopic Lances				
TL3-20L-3/4	23.6" (60 cm)	101.4" (2.6 m)	121-140" (3-3.5 m)	60 lbs. (27 kg)
TL3-32L-3/4	47.6" (121 cm)	173.4" (4.4 m)	193-212" (5-5.5 m)	70 lbs. (32 kg)
TL3-44L-3/4	71.6" (182 cm)	245.4" (6.2 m)	265-284" (6.7-7.2 m)	80 lbs. (36 kg)

**Note:** Special and custom manufactured lances are also available; please consult NLB.