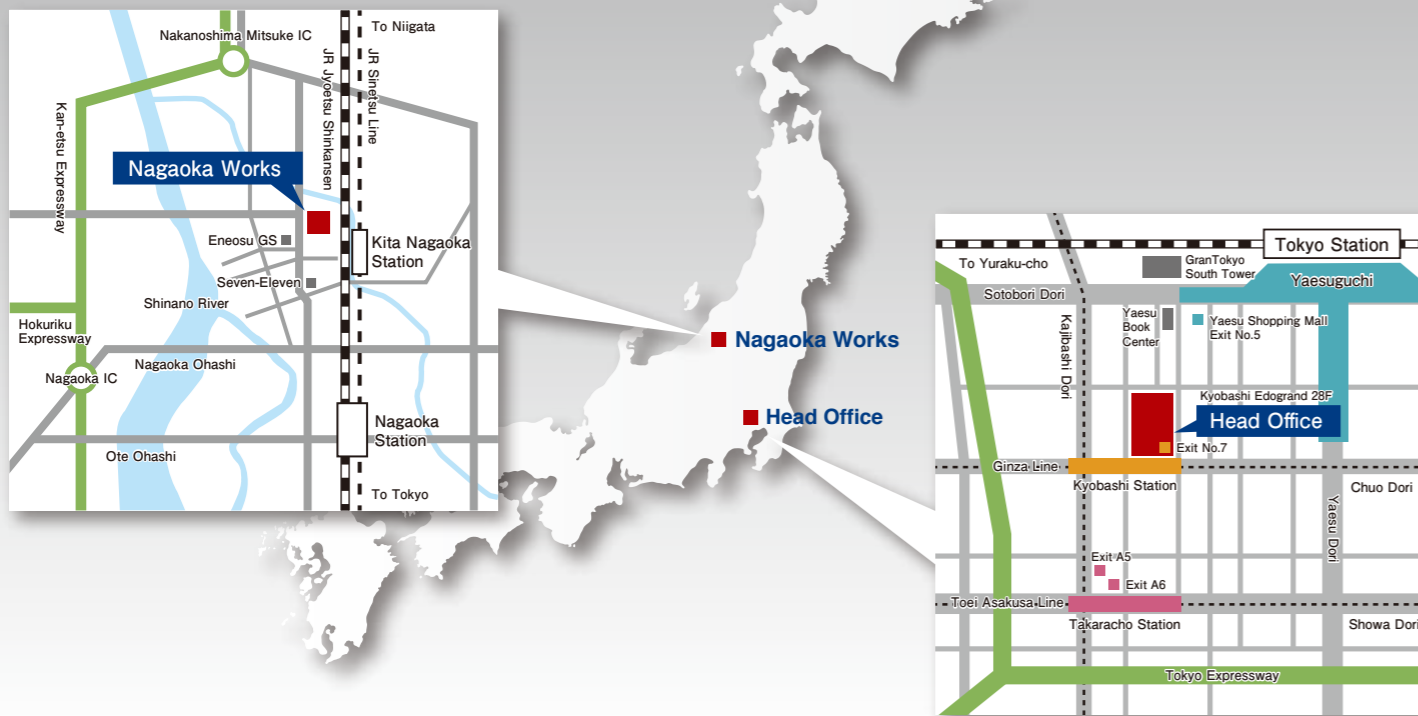


Access



NIIGATA

LOADING ARMS

FOR TRUCKS AND RAILCARS



Exclusive Sales Representative

 **TOKYO BOEKI MACHINERY LTD.**

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NIIGATA LOADING ARMS

for Tank Trucks and Tank Railcars

From more than half century of manufacturing experiences with one of the top supplied record in the world, Niigata gives you the reliability of truck loading arm in an economical package.



FEATURES

LOADING ARMS

TEN tank/rail loading arms features safe and time saving loading operation with long life time. It can be applied for almost all liquid/vapor application.



SELECTION GUIDELINES

LOADING ARMS

Arm Type

■ Top Loading

TSLA with torsion spring balance unit is generally adapted to open dome loading of petroleum products and chemicals. VRA with air actuator balance unit is generally adapted to closed dome loading with vapor recovery system for the application of volatile fluids. Steam jacketed type VRA is available for high temperature service.



TS Type



VRA Type

■ Bottom Loading

SBLA is particularly suited for closed system loading products such as LPG, chemicals, and fuel products with API coupler. CBLA is generally adapted to cryogenic application such as LNG.



SB Type



CB Type

■ Standard Size

Flow rate, loading time, pressure drop and other factors to decide size/diameter of loading arm.

Products	Size (Diameter)	Max. Flow Rate	
Petroleum / Back Oil	3 inches	80m ³	
	4 inches	120m ³	
Liquefied Gas	Liquid	2 inches	80m ³
		3 inches	120m ³
	Gas	1 inches	50m ³

* For the detail on the size for specific products, please contact us.

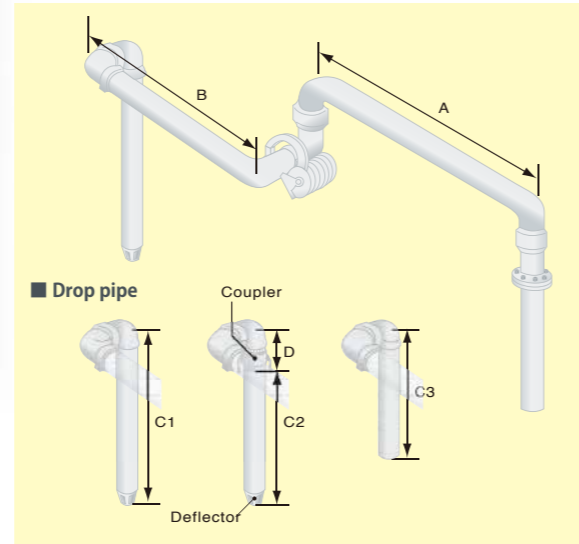
■ Length of Arm

Arm length to be considered by writing working range from installation point of arm to truck/tanker flange or hatch. For smooth operation, most appropriate length is considered for each requirement.

TSLA Torsion Spring Loading Arms

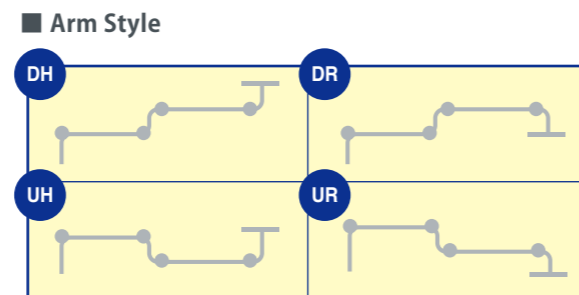
Product ▶ Petroleum, Chemicals, etc.

TSLA's feature the exclusive Niigata Torsion Spring which provides balance through a wide range for smooth, shock-free operation, less wear on parts and complete operator control. Available with a variety of packing compounds and arm configurations.



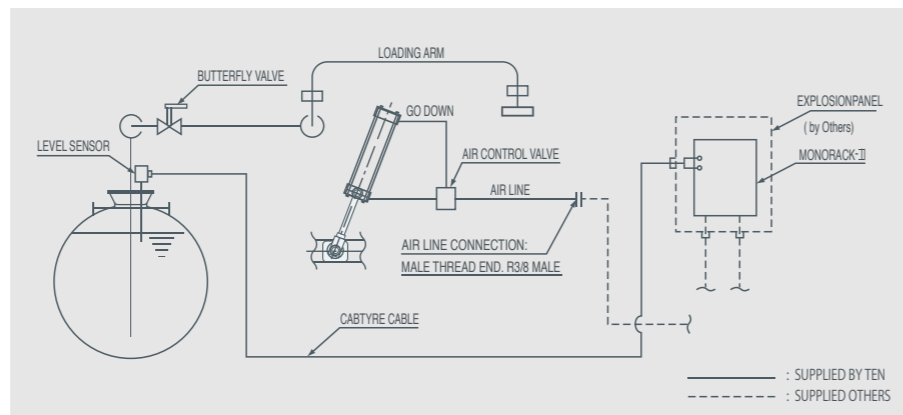
■ Arm Length a unit of length

Arm Dia.	Arm Length L (A+B)	A	B	C1	C2	C3	D
3B, 4B	3200	1700	1500	1600	1500	600	3B: 250 4B: 280
	3400	1900					
	3700	2200					



Level Sensor

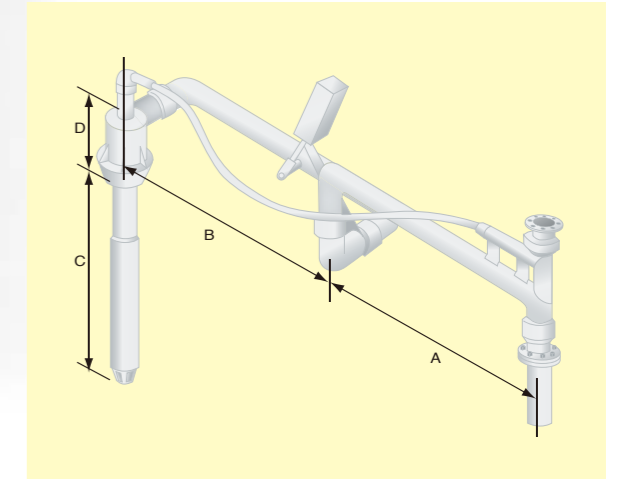
Niigata can provide loading arm with level sensor system to acknowledge product level in the tank.



VRA Vapor Recovery Arms

Product ▶ Gasoline, Condensate, etc.

VRA is a compact, one-piece arm assembly to recover air-gas mixture while loading products. Equipped with an air cylinder, arm operation and sealing the dome are completely accomplished.



■ Arm Length a unit of length

Arm Dia.	Arm Length L (A+B)	A	B	C	D
3B, 4B	3200	1700	1500	MIN 990 MAX 1600	350
	3400	1900			
	3700	2200			

VRA with Steam Jacket

Product ▶ Sulfur, Asphalt, etc.

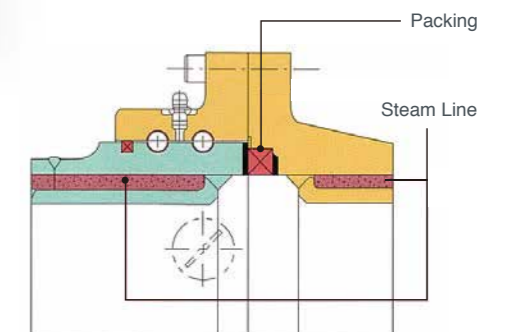
Steam jacketed arms are designed to handle high temperature products such as asphalts, liquid sulphur, and are incorporating the Internal Jacketed Joints (ISJ) or External Jacketed Joints (ESJ).



Vapor Seal Plug



ISJ (Internal Steam Jacketed) Swivel Joint



Accessories for SBLA

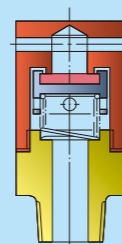
Butterfly Valve

Simple design, light weight TEN made butterfly valves are available for petroleum and chemicals.



Vacuum Breaker Valve

Sensitive spring and high performance seal arrangement in the V.B. permit quick draining of loading arm.



Torsion Spring

A variety of strength of single spring models assures that established moment load maximums are not exceeded.



Swivel Joint

Dynamic-seal packing and two rows of bearings in flame-hardened races in each swivel. Provided with long life lubrication.



Air Cylinder

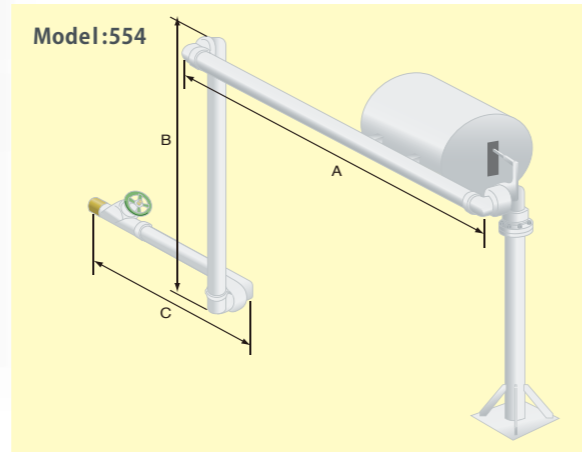
Air actuator to force loading arm downward to seal the dome during loading products.



SBLA Spring Balanced Loading Arm

Product ▶ LPG, Ammonia, etc.

SBLA's feature self-compensating springs which are totally contained in heavy gauge steel housing. No projecting pieces or counterweights; cat-walks behind arms are free and clear. Available with a variety of packing for nearly all commercial fluid.



Arm Length

Arm Dia.	Arm Length L (A+B)	I/B length		C
		A	B	
1B, 2B	2200	1100	1100	1B : 500 2B : 600
	2500	1400	1100	
	2900	1800	1100	
	3300	2200	1100	

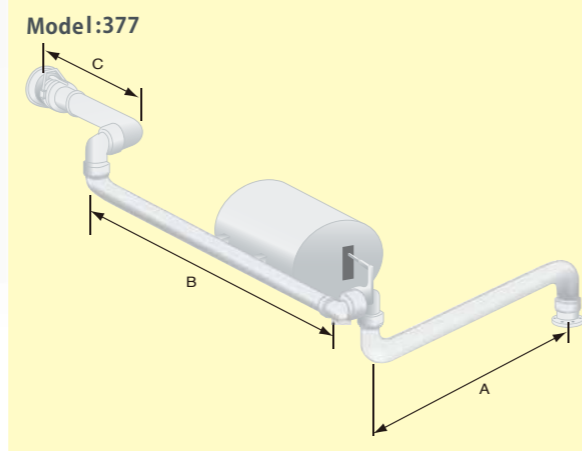
Emergency Release Coupler



SBLA with API Coupler

Product ▶ Diesel, Jet Fuel, etc.

SBLA has wide variety of outer-end coupler including 4 inches API standard coupler.



Arm Length

Arm Dia.	Arm Length L (A+B)	I/B length		Drop pipe length C
		A	B	
3B, 4B	2000	1000	1000	400
	2200	1000	1200	
	2400	1200	1200	
	2800	1400	1400	

Cross-Over Bottom

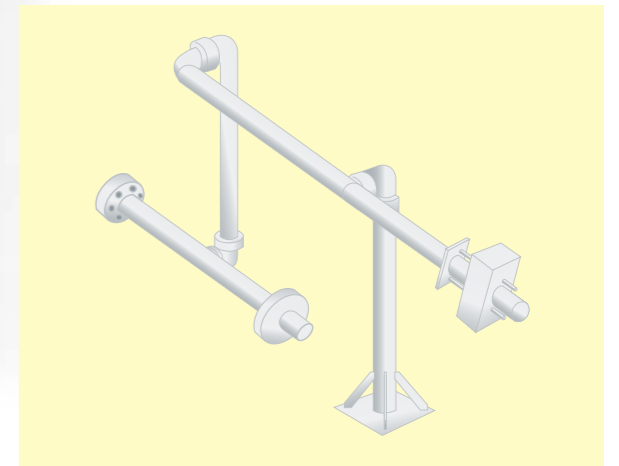
Connection to bulk tank simultaneously for loading multi-application.



CBLA Counter Balanced Loading Arm

Product ▶ LNG, -104°C Ethylene, LN2

CBLA's provide complete counter-balance of arm assemblies in all position when the counterweights are adjusted completely. This model is normally recommended for handling high or low temperature products, large size arm assemblies, and can be applied for any particular/special requirements from the customer.



Arm Length

To be considered according to customer's requisition.

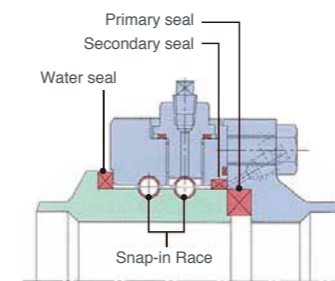
Snap-in Race

Swivel joints used in Niigata loading arms for cryogenic service employs Snap-in-Race which is replaceable ball-race. This specially hardened stainless steel ball-races withstand large load and ensure long term usage. They are used for not only cryogenic swivel joints but for joints at ambient and elevated temperature.



Cryogenic Swivel Joint

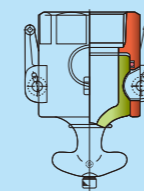
Liquefied gas such as ethylene, natural gas and nitrogen at very low temperature are easily handled through the dual seal Niigata swivel joints. Dual PTFE seals are tandemly arrayed and this structure ensures high sealing performance. Water seal which has same structure as packing is also used to prevent ball-bearing from damaging due to water or dust from outside. Low temperature resistance stainless steel is used for the material of joint body.



Accessories for SBLA

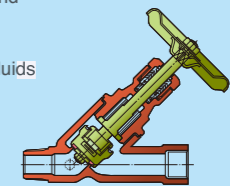
Quick Coupler

Applied for LPG. Assures quick and easy connection with tank lorry. Available for 1B and 2B size.



Y-Type Valve

Easy operation and high reliability, designed for compressed fluids such as LPG, anhydrous ammonia.



API Coupler

Easy connection and disconnection from API adapter. Available for 4" size.



Ball Valve

Easy operation and high reliability, designed for almost all products.

