

HOSE TOWER DATASHEET

1.1 CONTACT INFORMATION

| Contact details | | | |
|-----------------|--|--------|--|
| Company | | | |
| Location | | | |
| Contact person | | e-mail | |

1.2 PROJECT PLANNING

| Project details | | | |
|-------------------------------|--------------------------------------|---|---|
| Project | <input type="checkbox"/> Replacement | <input type="checkbox"/> Facility expansion | <input type="checkbox"/> New terminal / plant |
| Project phase | <input type="checkbox"/> Budget | <input type="checkbox"/> FEED Study | <input type="checkbox"/> Tender |
| Planned date of site delivery | | | |

1.3 ENVIRONMENTAL DETAILS

| Environmental influences | | | |
|--------------------------------|------|--|------------------------------|
| Location | City | | Country |
| Terminal / plant name | | | |
| Temperature | Min | | Max |
| Seismic load | | | Peak ground acceleration (g) |
| Max wind speed stored position | | | M/s |
| Max wind speed maneuvering | | | M/s |
| Hazardous Area Classification | | | ATEX / NEC |

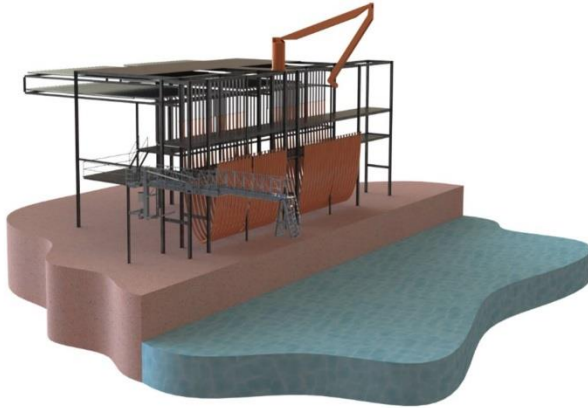
1.4 GENERAL REQUIREMENT

Hose tower 1

| JLA Product | Product / Medium | Flowrate m ³ /h | Diameter (inch) | Operation | |
|--------------------|------------------|----------------------------|-----------------|-----------------------------------|------------------------------------|
| Hose Loading Arm 1 | | | | <input type="checkbox"/> Electric | <input type="checkbox"/> Hydraulic |
| Hose Loading Arm 2 | | | | <input type="checkbox"/> Electric | <input type="checkbox"/> Hydraulic |
| Hose Loading Arm 3 | | | | <input type="checkbox"/> Electric | <input type="checkbox"/> Hydraulic |
| Hose loading Arm 4 | | | | <input type="checkbox"/> Electric | <input type="checkbox"/> Hydraulic |
| Hose Loading Arm 5 | | | | <input type="checkbox"/> Electric | <input type="checkbox"/> Hydraulic |
| Hose Loading Arm 6 | | | | <input type="checkbox"/> Electric | <input type="checkbox"/> Hydraulic |
| Hose Loading Arm 7 | | | | <input type="checkbox"/> Electric | <input type="checkbox"/> Hydraulic |
| Hose Loading Arm 8 | | | | <input type="checkbox"/> Electric | <input type="checkbox"/> Hydraulic |

1.5 HOSE TOWER TYPE

Conventional



- Construction with solely hoses
- Operated by crane

Hybrid



- Hose Loading Arms with combination of rigid arm with swivel joints and hoses
- Operated by winch and crane

Knuckle type



- Knuckle Hose Loading Arms with additional outboard arm
- No crane required, operated by cylinders and winches

Integrated



- Hose Tower with hose loading arms and integrated gangway and cranes.
- All operated from one control panel or even one radio remote control

1.6 DESIGN DETAILS

Hose tower 1

| JLA Product | Design pressure (bar) | Design temperature (min/max °C) | Operating mechanism | |
|--------------------|-----------------------|---------------------------------|--------------------------------|-----------------------------------|
| Hose Loading Arm 1 | | | <input type="checkbox"/> Winch | <input type="checkbox"/> Cylinder |
| Hose Loading Arm 2 | | | <input type="checkbox"/> Winch | <input type="checkbox"/> Cylinder |
| Hose Loading Arm 3 | | | <input type="checkbox"/> Winch | <input type="checkbox"/> Cylinder |
| Hose loading Arm 4 | | | <input type="checkbox"/> Winch | <input type="checkbox"/> Cylinder |
| Hose Loading Arm 5 | | | <input type="checkbox"/> Winch | <input type="checkbox"/> Cylinder |
| Hose Loading Arm 6 | | | <input type="checkbox"/> Winch | <input type="checkbox"/> Cylinder |
| Hose Loading Arm 7 | | | <input type="checkbox"/> Winch | <input type="checkbox"/> Cylinder |
| Hose Loading Arm 8 | | | <input type="checkbox"/> Winch | <input type="checkbox"/> Cylinder |

1.7 TOWER CONSTRUCTION

| JLA Product | Details | | Required | |
|---------------------|---------------------------------|--|------------------------------|-----------------------------|
| Number of floors | | | | |
| Integrated gangway | | | <input type="checkbox"/> yes | <input type="checkbox"/> no |
| Number of cranes | <input type="checkbox"/> rigid | <input type="checkbox"/> Telescopic boom | <input type="checkbox"/> yes | <input type="checkbox"/> no |
| Firefighting system | | | <input type="checkbox"/> yes | <input type="checkbox"/> no |
| Access | <input type="checkbox"/> Stairs | <input type="checkbox"/> Ladders | | |
| Drip tray | | | <input type="checkbox"/> yes | <input type="checkbox"/> no |
| Hose Reel | | | <input type="checkbox"/> yes | <input type="checkbox"/> no |

1.8 ACCESSORIES

Hose tower 1

| JLA Product | QCDC | ERS | Product valve | Tracing and insulation | Vapour return line |
|--------------------|--|--|--|--|--|
| Hose Loading Arm 1 | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no |
| Hose Loading Arm 2 | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no |
| Hose Loading Arm 3 | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no |
| Hose loading Arm 4 | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no |
| Hose Loading Arm 5 | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no |
| Hose Loading Arm 6 | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no |
| Hose Loading Arm 7 | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no |
| Hose Loading Arm 8 | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no | <input type="checkbox"/> yes <input type="checkbox"/> no |

1.10 DIMENSIONS (WHEN AVAILABLE)

| Jetty Dimensions | | | |
|-----------------------------|---|-----|--|
| A | Face of Hose Tower to dock face | | |
| B | Dock face to compressed fender | | |
| C | Dock level to lowest low water | Min | |
| D | Difference between lowest low water and highest high water | Max | |
| | The minimum ship size | DWT | |
| | The maximum ship size | DWT | |
| Vessel Data | | | |
| K | Min. Distance from ship railing to ship connection flange | mm | |
| L | Max. Distance from ship railing to ship connection flange | mm | |
| M | Minimum difference between Lowest low water and ship flange | mm | |
| N | Maximum difference between Highest high water and Ship Flange | mm | |
| O | Minimum spacing between ship flanges | mm | |
| | Maximum spacing between ship flanges | mm | |
| P | Rail height | mm | |
| | Is the rail removable? | mm | |
| Q | Height of center of ship flange to deck | mm | |
| Ship Movements | | | |
| T | Heave | mm | |
| U | Sway | mm | |
| V | Surge | mm | |
| Additional jetty dimensions | | | |
| E | Centerline of inlet flange to dock level | mm | |
| G | Dock face to flange face | mm | |
| H | Any dock conditions that limit the arm design | mm | |
| I | Any dock conditions that limit the arm design | mm | |
| J | Spacing between different Hose Loading Arms | mm | |

1.11 CONTROL SYSTEM

| Berth information | |
|-------------------------------------|--|
| Berth customer reference | |
| No. of New Marine Loading Arms | |
| No. of existing Marine Loading Arms | |

| Item | Configuration | Hazardous area classification | Included |
|------|---|---|--|
| 1 | Automatic Tidal compensation | Range alarms and automatic adjustments | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 2 | Hydraulic Power Unit | Outside on jetty | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 3 | Operation Control Panel at jetty nearby MLA | <input type="checkbox"/> Outdoor on jetty <input type="checkbox"/> Indoor in Berth control room | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 4 | Satellite control panel | <input type="checkbox"/> outdoor on berth | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 5 | PLC control cabinet | <input type="checkbox"/> Integrated in operation control panel <input type="checkbox"/> Standalone PLC cabinet in control room | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 6 | Radio remote control | | <input type="checkbox"/> yes <input type="checkbox"/> no |
| 7 | Pendant remote control | <input type="checkbox"/> On berth <input type="checkbox"/> At (shipside) | <input type="checkbox"/> yes <input type="checkbox"/> no |