

# Model P2K

## The Safest Design in the Industry



### Specifications

	in	1.25, 1.50 x 1.50	1.75 x 1.50	2.00 x 1.50
	mm	32, 38 x 38	44.5 x 38	50.8 x 38
<b>Bore x Stroke</b>	gpm	.31 – 3.6	.61 – 4.9	.80 – 6.4
	lpm	1.2 – 13.6	2.3 – 18.5	3.0 – 24.2
<b>Flow Rate</b>	hp	7.5 – 20	10 – 20	15 – 20
	kw	5.6 – 15	7.5 – 15	11.2 – 15
<b>Pump Design Rating</b>	psi	6,000	4,500	3,500
	bar	414	310	241
<b>Maximum Discharge Pressure</b>	psi	2	2	2
	bar	0.14	0.14	0.14
<b>NPSPR</b>	psi	300 (450*)	300 (450*)	300 (450*)
	bar	20.7 (31*)	20.7 (31*)	20.7 (31*)
<b>Maximum Suction Pressure</b>	rpm	50 - 415	40 - 415	50 - 415

Consult Nikkiso ACD engineering to confirm available sizes and ratings.

\* CO<sub>2</sub> Service

### Features & Benefits

- Vertical pump design eliminates gravitational loading on the piston, extending sealing ring life and providing smoother suction valve operation
- Vertical installation offers less vibration, reduced noise, and a compact system footprint
- V-band clamp secures the sump to the intermediate, allowing quick and easy access to the cold end assembly
- External re-lubrication nipples for roller bearings and crosshead provide extended service life
- Replaceable crosshead wearband eliminates crosshead piston wear and reduces maintenance costs
- Packing rings at top of pushrod are retained in cartridges for easy replacement (no removal of sump and cold end required)
- Motor positioned on the backside of the pumping skid eliminates possible fire, explosion, or hazard in the event of a liquid oxygen leak
- Vertical cold end is submerged inside a vacuum-jacketed liquid sump, minimizing heat leak and increasing system efficiency (particularly in poor suction conditions)
- Pump assembly and spare parts are interchangeable with the PD3000 pump
- Easy cold end maintenance by swiveling the pump and drive end 45°

### Typical Scope of Supply

- Grease-lubricated drive assembly and vacuum-jacketed cold end
- Electric motor with belt drive and guard
- Hot-dipped galvanized steel skid frame
- Over pressure switch gauge (shipped loose)
- Control panel with combination motor starter and running time meter (shipped loose), relay logic
- Vent line with manual valve and low pressure relief valve
- Monel suction strainer
- High pressure relief valve with discharge line and surge chamber

### Applications

- Heavy duty cylinder filling
- Medium duty storage filling
- Unattended, automatic storage filling

### Liquids Pumped

- N<sub>2</sub>, O<sub>2</sub>, Ar, CO<sub>2</sub>, N<sub>2</sub>O
- Methane
- Ethylene

FOR PUMPS INTENDED TO BE USED IN NITROUS OXIDE SERVICE: Liquid Nitrous Oxide is a potentially dangerous fluid and must be handled with extreme care. See Compressed Gas Association standard CGA G-8.3-2016 for further information. Under certain combinations of temperature and pressure Nitrous Oxide can explosively decompose with serious consequences. Nitrous Oxide is an oxidizer that actively supports combustion. Nitrous Oxide handling equipment must be cleaned for Oxygen service. Design and construction of storage and piping systems for pumping liquid Nitrous Oxide must assure material compatibility and be such as to prevent loss of prime or "dry running" of pumps. Nitrous Oxide is an active solvent for many materials and material compatibility with Nitrous Oxide must be confirmed before their use. For additional historical information relating to hazards associated with Nitrous Oxide decomposition refer to Chemical Safety Board report number 2016-04-I-FL Dated February 2017.