



ZLPAM
Exceeding Your Expectations

ZL EQUIPMENT

—
High Efficiency
Low Maintenance
Minimed Operatorship

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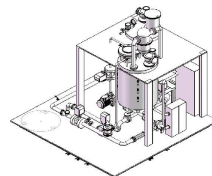
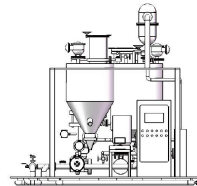


Main Characteristics of CPDU

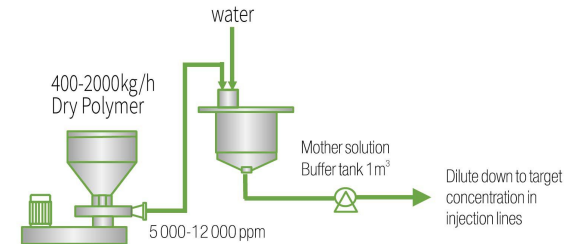
- 01** High accuracy of polymer mother solution concentration, <5% fluctuation
- 02** Ensures the complete mixing of polymer with water, no fish eyes, clogs or precipitates
- 03** No chemical nor mechanical degradation during dispersion and transportation
- 04** Nitrogen blanked with PLC control
- 05** Compact and mobile design
- 06** Energy efficient with low requirement of energy input, 40% of conventional dispersion units
- 07** Low maintenance requirement, 90% reliability with mature technology

All necessities provided, with over 25 years expertise to implement your polymer project.

ZL's innovation and environmentally friendly polymer preparation technology provides customers a compact option for polymer preparation facilities. This solution includes improved polymers for dissolution and hydration in target preparation brine waters. ZL's dispersion unit significantly increases efficiency and performance. This reduces the facility investment, facility footprint and operator involvement for the process.



- 01 Minimize**
Capital Expenditure for Polymer Flooding Projects
- 02 Minimize**
Area of Polymer Flooding Engineering Facilities
- 03 Minimize**
Operator Involvement for Operation



PART.02

POLYMER COMPACT DISPERSION UNIT(CPDU®)

01 High accuracy of polymer mother solution concentration, fluctuation <5%



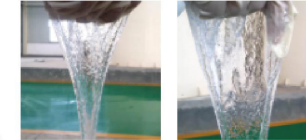
- Polymer feeding rate control to ensure high accuracy of concentration
- Measurement: Density, solid content, weight
- Polymer flowability: Silo level sensor, vibrator, polymer flow sensor
- Special designed auger: shape, distance, thickness and dual auger system

02 Low maintenance requirement, 90% reliability with proven technology



- Venturi dispersion system
- Special patent on dispersion unit: uniform mother solution
- Special material for sprayer: no clogging for the sprayer
- Moisture back flow control valve: prevent moisture flow back to polymer transport pipelines

05 Ensure the complete mixing of polymer with water, no fish eyes, clogs or precipitates



2 minutes

5 minutes

- No Fisheye, no clogs
- Evenly distributed mother solution
- <20,000 ppm
- Insoluble contents of mother solution: 0.2- 0.3%

04 High operation time

- Low maintenance of venturi spray system
- Special design to prevent moisture back flow
- Dual auger system and double spare parts to ensure continuous operation
- Sold to major polymer flooding projects for over 60 units with proven record

03 No chemical nor mechanical degradation during dispersion and transportation

- Nitrogen Blanketing, with recycling nitrogen to minimize the usage
- Full PLC control
- No slicing or shearing during preparation and mixing



PART.03

POLYMER COMPACT DISPERSION UNIT (CPDU®)

Footprints for EOR Polymer Preparation

Dry polymer powder feeding rate (kg/hr)	L*W*H (m)	(Tons) Weight Feeding rate (kg/hr)	Power required for the unit (kw)	Daily water injection rate (m) (Target injection concentration @1,000 ppm)
400	3.6*2.6*3.6	3.2	30	9600
600	3.8*2.6*3.6	3.6	45	14400
1000	4.5*2.8*3.8	4.5	68	24000
1500	4.8*3*3.8	5	110	36000
2000	5.2*3.4*3.8	5.6	150	48000

Footprints for FR Polymer Preparation

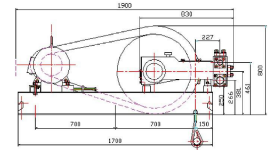
2.43*2.59*6.06 m



PART.04

POLYMER LOW SHEAR INJECTION PUMPS

ZL's LS polymer injection pumps feature low mechanical shear impact on polymers, developed specifically for enhanced oil recovery application of polymer. It has the advantage of high pumping efficiency (volumetric efficiency >90%), long life, smooth operation, low viscosity degradation, high reliability, low vibration, low noise level, compact and easy for maintenance.



Model	Suction pressure MPa	Rated pressure MPa	Capacity m3/h m3/d		Motor power KW	Dimensio LxWxH mm	Inlet pipe mm	Outlet pipe mm	Weight Kg
KD63 Series	0.03	16	0.4-1.2	9.6-28.8	5.5-7.5	1900×830×800	φ60×3	φ42×5	672
KD76 Series		16-35	1.2-3.0	28.8-72	7.5-22	1860×895×800	φ60×3	φ42×5	810
KD80 Series		16-35	1.2-5.0	28.8-120	7.5-37	2165×1056×805	φ70×3	φ50×6	1550
KD80 Series	0.15	16-35	4.7-7.6	112.8-182.4	30-55	2365×1335×805	φ70×3	φ50×6	1640
KD110 Series		16-35	2.9-10	69.6-240	18.5-75	2825×1370×1135	φ90×3	φ63×6	2885
KD120 Series		16-35	7.1-11	170.4-264	45-110	3025×1385×1070	φ110×3	φ74×6	4300



For full polymer injection Pump lists, please contact ZL technical team.

ZL also offers low shear valve for polymer flooding projects, inline viscometers for both mother solution and wellhead. Please contact ZL technical team for more information.