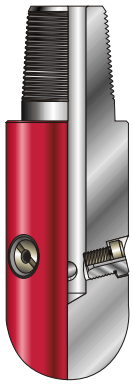
Weatherford®

MacJet™ Nozzle



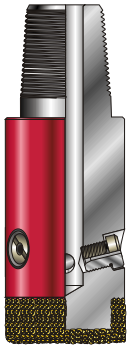
Weatherford's *MacJet* nozzle is a high-pressure downhole rotary jetting tool, designed for use in conjunction with a MacDrill™ motor. Flow input to the motor is expended on the wellbore through numerous high-velocity nozzles, which are angled to facilitate well circulation. The *MacJet* nozzle is used primarily to remove scale precipitation restrictions in geothermal and hydrocarbon production tubing, but its modular construction allows configuration of the nozzle for use in a variety of applications.

Applications

- The primary application of the *MacJet* nozzle is removal of scale precipitation restrictions in geothermal and hydrocarbon production tubing. The modular construction of the nozzle enables it to be configured for a variety of jetting applications.

Features, Advantages and Benefits

- Specially designed **bull-nosed** *MacJet* nozzle incorporates two or four nozzles, allowing tailored pressure-drop characteristics.
- The **hard-faced** *MacJet* nozzle incorporates two nozzles for simultaneous jetting and limited milling of hard precipitation scale. The tungsten hard-facing does not exceed the diameter of the *MacJet* body, preventing damage to production tubing.
- Standard flow sub, consisting of a simple crossover with two variable, upward-pointing jets, vents surplus flow rate and provides additional lift for cuttings return.



Weatherford International Ltd.
515 Post Oak Blvd., Suite 600
Houston, Texas 77027 USA
Tel: 713-693-4000
www.weatherford.com

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Specifications

Tool OD (in./*mm*)	Flow Rate (GPM/*LPM*)	ΔP over *MacJet* Nozzle (PSI/*kPa*)	Jet Velocity (ft/sec) (*m/sec*)	Jet Impact Force per Nozzle (lbf/*n*)	Localized Pressure per Nozzle (PSI/*kPa*)	Nozzle Diameter (in./*mm*)
1-11/16 *42.900*	15 *56.78*		610 *186*	19.8 *88.1*	5,027 *34,660*	0.071 *1.803*
2-1/8 *53.975*	20 *75.71*		604 *184*	32.6 *145.0*	4,889 *33,708*	0.094 *2.387*
2-7/8 *73.025*	45 *170.34*	3,000 *20,684*	604 *184*	58.6 *260.7*	4,886 *33,688*	0.122 *3.099*
3-1/8 *79.380*	55 *208.19*		600 *183*	71.7 *318.9*	4,894 *33,743*	0.138 *3.505*
4-3/4 *120.650*	125 *473.18*		600 *183*	162.0 *720.6*	4,861 *33,515*	0.205 *5.207*

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