# D G HOWELL (HYD ENGINEERS) LTD

## CYLINDER THEORETICAL OUTPUT FORCE

**(1 kgf = 9.806 n)**

| BORE DIA | ROD DIA | AREA RATIO | BORE AREA | PUSH FORCE | ANNULUS AREA |
|---|---|---|---|---|---|
| mm | mm | | sq cm | kg/100 bar | sq cm |
| | | | | | |
| 25 | 16 | 1.69 | 4.91 | 491 | 2.90 |
| 32 | 20 | 1.64 | 8.04 | 804 | 4.90 |
| 40 | 25 | 1.64 | 12.56 | 1256 | 7.65 |
| 40 | 20 | 1.33 | 12.56 | 1256 | 9.42 |
| 50 | 35 | 1.96 | 19.63 | 1963 | 10.00 |
| 50 | 25 | 1.33 | 19.63 | 1963 | 14.72 |
| 63 | 40 | 1.68 | 31.16 | 3116 | 18.59 |
| 63 | 35 | 1.45 | 31.16 | 3116 | 21.53 |
| 80 | 60 | 2.29 | 50.24 | 5024 | 21.96 |
| 80 | 40 | 1.33 | 50.24 | 5024 | 37.67 |
| 100 | 70 | 1.96 | 78.50 | 7850 | 40.01 |
| 100 | 50 | 1.33 | 78.50 | 7850 | 58.86 |
| 125 | 90 | 2.08 | 122.66 | 12266 | 59.03 |
| 125 | 70 | 1.46 | 122.66 | 12266 | 84.17 |
| 160 | 110 | 1.90 | 200.96 | 20096 | 105.91 |
| 160 | 90 | 1.46 | 200.96 | 20096 | 137.33 |
| 200 | 110 | 1.43 | 314.00 | 31400 | 218.95 |
| 200 | 100 | 1.33 | 314.00 | 31400 | 235.45 |
| 250 | 200 | 2.78 | 490.63 | 49063 | 176.43 |
| 250 | 125 | 1.33 | 490.63 | 49063 | 367.89 |

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