

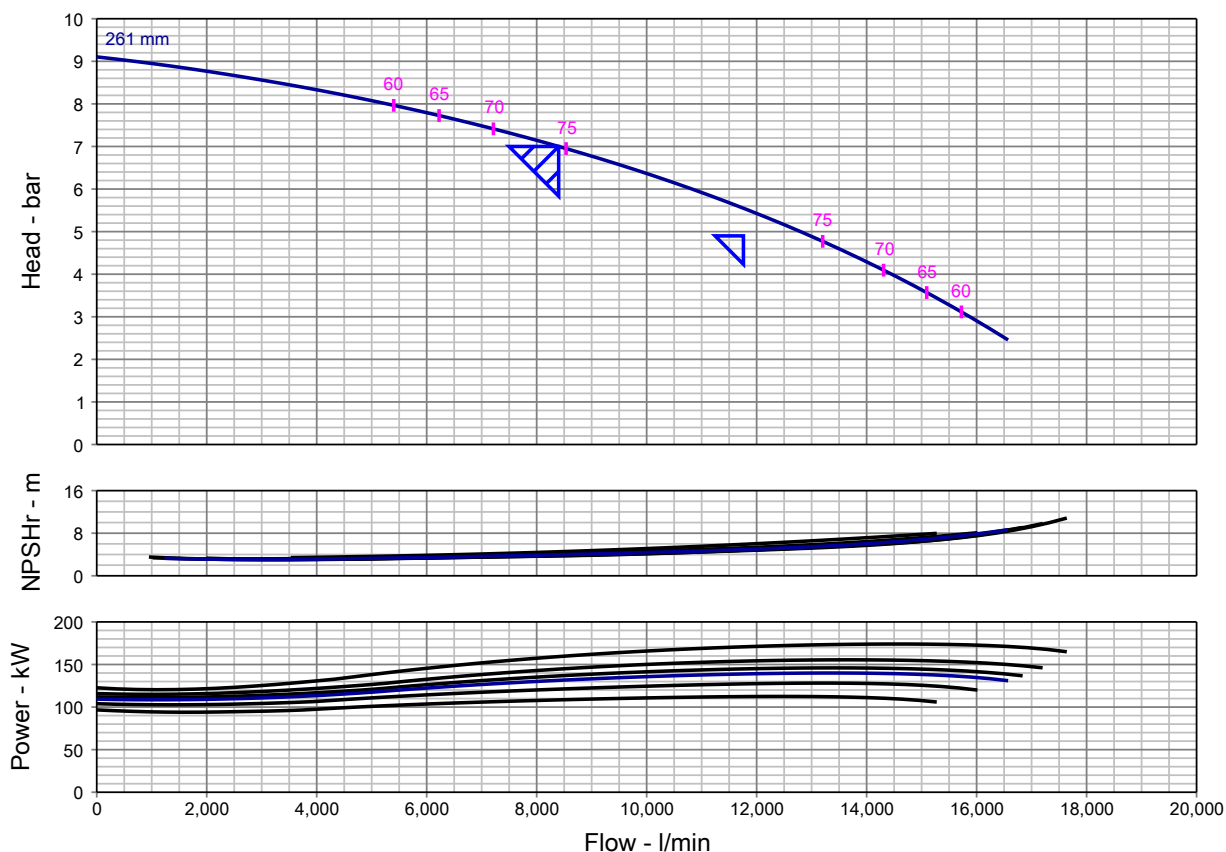
## Pump Performance Datasheet

|                  |                            |                       |                             |
|------------------|----------------------------|-----------------------|-----------------------------|
| Customer         | : Vatn & Veitur ehf        | Quote number          | : 294945                    |
| Customer enquiry | : Sólvellir 2 Grundarfirði | Pump Size             | : TD20E                     |
| Item number      | : 001                      | Stages                | : 1                         |
| Usage - Tertiary | :                          | Based on curve number | : TD20E-LPC-C2950 Rev 1B-A5 |
| Quantity         | : 1                        | Date last saved       | : 22 Aug 2018 09:18         |

| Operating Conditions               |                                | Liquid                                     |                    |
|------------------------------------|--------------------------------|--------------------------------------------|--------------------|
| Suction pressure, rated / max      | : 0.00 / 0.00 bar.g            | Liquid Type/ Application                   | : Water            |
| NPSH available, rated              | : Ample                        | Additional liquid description              | :                  |
| Frequency                          | : 50 Hz                        | Solids diameter, max                       | : 0.00 mm          |
| Material                           |                                | Solids/Bagasse/Stock consistency by volume | : 0.00 %           |
| Material selected                  | : Iron Buid-ABC(CI/CI/H ST.ST) | Temperature, max                           | : 20.00 deg C      |
| Performance                        |                                | Fluid density, rated / max                 | : 1.000 / 1.000 SG |
| Speed, rated                       | : 2950 rpm                     | Viscosity, rated                           | : 1.00 cSt         |
| Impeller diameter, rated (approx.) | : 261 mm                       | Vapor pressure, rated                      | : 0.02 bar.a       |
| Impeller diameter, maximum         | : 290 mm                       | Pressure Data                              |                    |
| Impeller diameter, minimum         | : 240 mm                       | Maximum working pressure                   | : 9.10 bar.g       |
| Cq/Ch/Ce/Cn [HI2004]               | : 1.00 / 1.00 / 1.00 / 1.00    | Maximum allowable working pressure         | : 21.00 bar.g      |
| Selection status                   | : Acceptable                   | Maximum allowable suction pressure         | : 5.00 bar.g       |
|                                    |                                | Hydrostatic test pressure                  | : 13.66 bar.g      |

| LPC Fire Pump Data        |                    |                         |       |
|---------------------------|--------------------|-------------------------|-------|
| Standard                  | : EN12845          | Tank height             | : -   |
| Group                     | : Calculated flows | Sprinkler height        | : -   |
| Class                     | : -                | Add 2% cooling          | : Yes |
| Suction conditions        | : Flooded suction  | 0.5 bar included in MRA |       |
| Flow value @ NPSHr 4.90 m | : 11,686.6 l/min   |                         |       |

|                | Rated   | Not Less Than | Not Less Than | Overload | Shutoff | NPSHr Point | MRA | MFA | QMax | Peak Power |
|----------------|---------|---------------|---------------|----------|---------|-------------|-----|-----|------|------------|
| Flow (l/min)   | 8,400.0 | -             | -             | 11,760.0 | 0.0     | 8,400.0     | -   | -   | -    | 13,375.3   |
| Head (bar)     | 7.00    | -             | -             | 4.90     | 9.10    | 7.00        | -   | -   | -    | 4.67       |
| Power (kW)     | 131     | -             | -             | 139      | 109     | 131         | -   | -   | -    | 140        |
| NPSHr (m)      | 3.95    | -             | -             | 4.93     | -       | 3.95        | -   | -   | -    | 5.64       |
| Efficiency (%) | 74.58   | -             | -             | 78.31    | 0.0     | 74.58       | -   | -   | -    | 74.36      |



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| NPSH available, rated         | : Ample             | Additional liquid description              | :                  |
| Frequency                     | : 50 Hz             | Solids diameter, max                       | : 0.00 mm          |
|                               |                     | Solids/Bagasse/Stock consistency by volume | : 0.00 %           |
|                               |                     | Temperature, max                           | : 20.00 deg C      |
|                               |                     | Fluid density, rated / max                 | : 1.000 / 1.000 SG |
|                               |                     | Viscosity, rated                           | : 1.00 cSt         |
|                               |                     | Vapor pressure, rated                      | : 0.02 bar.a       |

| Flow<br>(l/min) | Head<br>(bar) | Pump Efficiency<br>(%) | Power Required<br>(kW) | NPSH required<br>(m) |
|-----------------|---------------|------------------------|------------------------|----------------------|
| 0.00            | 9.10          | 0.00                   | 109                    | 3.78                 |
| 2,071.6         | 8.75          | 27.69                  | 109                    | 3.12                 |
| 4,143.3         | 8.30          | 50.28                  | 114                    | 3.16                 |
| 6,214.9         | 7.73          | 64.94                  | 123                    | 3.49                 |
| 8,286.6         | 7.04          | 74.21                  | 131                    | 3.93                 |
| 10,358.2        | 6.21          | 78.54                  | 137                    | 4.47                 |
| 12,429.9        | 5.20          | 77.19                  | 140                    | 5.19                 |
| 14,501.5        | 3.97          | 68.89                  | 139                    | 6.38                 |
| 16,573.2        | 2.46          | 51.78                  | 131                    | 8.66                 |