I●V●B●S ● Internationaler Verband der Betonbohr- und Sägeunternehmungen
I●A●C●D●S ● International Association of Concrete Drillers and Sawers
A●I●E●F●S●B ● Association Internationale des Entreprises de Forage et de Sciage du Béton

# Basic Parameters for Concrete Drilling and Sawing equipment

**IACDS Standard 2007/1**
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**Preamble**

The IACDS Standard 2007/1 has been elaborated by manufacturers of machines for the concrete drilling and sawing industry including contractors knowing the business for many years.

First ideas to unify the description parameters of hydraulic machines were presented to the IACDS delegates already in 2002. It took some more years until a draft for uniform parameters was ready to be discussed by the delegates in 2006. A broad discussion finally lead to a final draft, discussed and amended on the occasion of the IACDS 2007 annual meeting.

IACDS expects that manufacturers of machines update their specifications within one year after publication of this standard.

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| **compulsory parameters for machines (example EU)**<br>to be modified in other countries | |
|---|---|
| **applicable to** | **Standard** |
| **Safety rules** | DIN/ISO 3744 |
| **Wire and wall saws** | prEN 15027 |
| **Core drilling machines on drill rigs** | EN 12348 |
| **Safety requirements for grinding tools with diamond or boron nitride** (includes diamond saw blades and diamond wires) | EN 13236 |

| **power packs (hydraulic units)** | |
|---|---|
| **parameter** | **example** |
| **connected load / power input** | 400 V / 32 A / 18,0 kW |
| **hydraulic power output** | 13,7 kW (l/min x bar / 600) |
| **kind of pump** | piston pump - variable |
| | geared pump - constant |
| | multiple geared pump, 3-stage |
| **pump capacity** | 0 - 60 l/min / 0 - 260 bar (variable displacement pump) |
| | 45 l/min / 210 bar (fixed displacement pump ) |
| **Weight (including oil and fixed cables)** | 139,0 kg |

| wall saws and floor saws | |
|---|---|
| **parameter** | **example** |
| **max. saw blade diameter** | 1500 mm |
| **without precut** | 900 mm |
| **max. cutting depth** | 620 mm |
| **motor for saw blade drive** | hydraulic geared motor |
| on electric motors input (P1) and output power (P2) at the saw blade | hydraulic piston motor |
| rating mode (S1) and speed | three phase AC motor P1: 10 kW -S1; 2.850 rpm; P2: 7,5 kW-S1; 2.850 rpm |
| | high-cycle-motor P1: 20 kW-S1; 0 - 30.000 rpm; P2: 14,7 kW-S1; 0 - 30.000 rpm |
| **power train** | gears |
| | belt |
| | chain |
| | direct drive |
| **output speed** | 0 - 1200 rpm |
| **max.drive torque at the saw blade** | 190 Nm @rpm |
| **starting torque** | 120 Nm @ 0 rpm |
| **feeding system / control** | electric / fully automated |
| | electric / manual |
| | hydraulic / manual |
| | manual operated / manual |
| **weight** | 32,0 kg |

| wire saws | |
|---|---|
| **parameter** | **example** |
| **motor for wire drive**<br>on electric motors input (P1) and output power (P2) at the drive wheel<br>rating mode (S1) and speed | hydraulic geared motor |
| | hydraulic piston motor |
| | three phase AC motor P1: 10 kW -S1; 2.850 rpm; P2: 7,5 kW-S1; 2.850 rpm |
| | high-cycle-motor P1: 20 kW-S1; 0 - 30.000 rpm; P2: 14,7 kW-S1; 0 - 30.000 rpm |
| **circumferential speed at the drive wheel** | 0 - 30 m/s |
| **max. drive torque at the drive wheel** | 230 Nm @ 20000 rpm |
| **starting torque** | 180 Nm @ 0 rpm |
| **feeding system / control** | electric / fully automated |
| | electric / manual |
| | hydraulic / manual |
| | pneumatic / fully automated |
| | pneumatic / manual |
| **wire storage capacity** | 12 linear meter |
| **weight** | 138,0 kg |

| drill rigs | |
|---|---|
| **parameter** | **example** |
| **max. core bit diameter** | 250 mm |
| **usable feeding length** | 660 mm |
| **recommended drilling motor**<br>(drive power max.) | electric motors: DK 2203, Diamant 9, ..... |
| | hydraulic motors: OMR 100, ..... |
| | 2300 W |
| **system of infeed / control** | gear rack / manually operated |
| | thread spindle / manually operated |
| | chain / manually operated |
| | hydraulic / manually operated |
| | electric / fully automated |
| **weight** | 19,0 kg |

| electric drilling motors | |
|---|---|
| **parameter** | **example** |
| **type of motor**<br>on electric motors input (P1) and output power (P2) at the core bit<br>rating mode (S1) and speed | single phase 110 V |
| | 3-phase 400 V / 16 A |
| | high-cycle-motor P1: 20 kW-S1; 0 - 30.000 rpm;<br>P2: 14,7 kW-S1; 0 - 30.000 rpm |
| **output power** | 2100 W |
| **drive torque per gear (under load)** | 87/42/23 Nm |
| **speeds / gears (under load)** | 230/480/720 rpm |
| **max. / min. core bit diameter** | 55 - 350 mm |
| **Tool fixture** | 1 1/4 UNC |
| **Foot fastening** | Standard 4 x M8 with groove 10 mm |
| | ..... quick fastening system |
| **weight** | 11,9 kg |

| hydraulic drilling motors | |
|---|---|
| **parameter** | **example** |
| **kind of motor** | geared motor |
| | torque motor |
| | piston motor |
| **geometric displacement** | 160 ccm |
| **speeds / gears (under load)** | 230/480/720 rpm |
| **max. pressure / torque per gear (load)** | 180 bar 460/230/160 Nm |
| **speed at l/min / transmission** | 32l / 200 rpm / direct drive |
| **max. / min. core bit diameter** | 150 - 350 mm |
| **Tool fixture** | 1 1/4 UNC |
| **weight** (whole unit) | 18,9 kg |