

No destro

# **Pronto DC**

## UNIVERSAL SEEDING TECHNOLOGY FOR ALL CONDITIONS

# **Pronto DC** FASTER – SIMPLER – SAFER

- Safe emergence due to perfect embedding of the seed
- Maximum utilisation of the ideal sowing time due to top hectare output and operational speeds of up to 20 km/h
- Simpler, safer, faster this motto is true for the whole adjustment process
- Versatile and flexible use: different hopper systems for up to three individual components
- Fertilisation to the point: PPF or G & F fertilisation systems



## **Pronto DC**

### Universal

The Pronto DC is rightly called a universal seed drill. Universal from two points of view:

- Perfect sowing regardless of the preparatory work: mulch seed, after plough or intensely mixed passes.
- Ideal for sowing the most different crops. In addition to the classical crops, like rape/wheat/barley, it is also possible to sow grass/catch crops and so on.

### Ultimate efficiency

The placement and the embedding of the seed is a crucial factor when sowing. Another essential success factor, however, is that the optimum time window for sowing can be maintained. The high operational speed of up to 20 km/h and the large seed hoppers of the Pronto DC guarantee a long range.

- Pronto 3, 4 rigid and 4 DC: 2 800 liter single hopper
- Pronto 6 DC: 3 500 liter single hopper
- Pronto 7 to 9 DC: 4 000 liter single hopper

If fertiliser is used, the capacity increases to 3 800 resp. 5 000 liter.

### Durable – low wear

The bearings at the working tools of the Pronto DC do not have any servicing points. HORSCH already stroke this path several years ago. Thus, the effort for the daily maintenance is reduced and a high operational reliability is guaranteed even in the most difficult conditions.





Pronto 4 DC PPF

Pronto 6 DC

- 1 Even germination is the basis for high yields
- PowerDisc seed coulter -2 exact seed placement even in heavy soils
- **Tyre packer with optimised tractor profile** Effective consolidation in front of each seed coulter 3
- 4 DiscSystem efficient seedbed preparation in all conditions
- 5 PPF fertiliser coulter precise placement of fertiliser



Pronto 8 DC

# **The Pronto principle** CULTVATION, CONSOLIDATION, SEEDING

### Which requirements does the seed drill have to meet?

- Precise seed placement as even germination increases yield potential.
- High seeding speed as perfect timing is essential.
- Tolerance for seedbed conditions as flexibility saves money.

### How does the Pronto achieve such even germination?

- The DiscSystem loosens, levels and produces fine soil.
- The packing system ensures deep consolidation and equal seeding conditions for all coulters. Several narrow, large-diameter tyres mounted on a rigid axle ensure a high level of even soil surface.
- The mounting of the TurboDisc coulters allows for vertical adjustment movement of up to 15 cm and ensures precise contour following. All seeds are placed exactly at the specified depth.
- 4 rubber elements/coulters release a pressure of up to 120 kg, sufficient to reliably keep them in the ground at high speed.
- The rubber wheel at the coulter-end ensures precise seed depth and proper seed-to-soil contact.



#### Faster

- Extremely low power demand due to low dead weight and power-saving, but very efficient tools
- High output due to working speeds of 10-20 km/h
- Short turning times due to compact design
- Low idle times due to large seed and fertiliser hoppers

### Simpler

- Short set-up times due to uncomplicated connection to the tractor
- Quickly ready for action due to easy adjustment of seed quantity, seed depth and coulter pressure
- Unproblematic changing of the seed
- Low maintenance requirements

### Safer

- TurboDisc seed coulter precise seed placement at high working speeds
- TurboDisc coulters are individually controlled by press wheels and are equipped with integrated shock absorbers
- Exact adaption to uneven soils up to a difference of 15 cm
- Stepless coulter pressure adjustment 5-120 kg per TurboDisc coulter

### **DISCSYSTEM – TYRE PACKER**

## **TURBODISC**

### DiscSystem – perfect seed bed preparation in all conditions

- Effective crumbling and even levelling across entire operational width
- High clearance increases operational options and reliability
- Better performance at increased speed
- Hydraulic depth control, adjustable during operation

### Tyre packing system with AS thread robust, effective and easy to pull

- Effective, even levelling and consolidation in front of each coulter. A straight tyre thread increases consolidation at the tyre edges.
- The middle segment of the packer also acts a chassis for transport
- Effective consolidation below the seeds for better capillarity towards the seeds
- Large diameter of tyres (780 mm) and the not-required scrapers reduce the draft requirement

### TurboDisc - the third generation guarantees an advance in seed placement

A perfect placement of the seed and an immediate seed-soil contact are the prerequisites for a safe and regular emergence. HORSCH perfectly meets the challenge to achieve this aim even at high operational speeds. The solution is called **TurboDisc**. The DoubleDisc seed coulter that HORSCH has been using and developing further for more than 20 years convinces by its precise seed placement. The press-wheel-controlled coulter design allows a quick adaption to the soil at high speeds. This is the only way to keep up the placement depth for every single grain of seed.

The DoubleDisc seed coulter with maintenance-free bearing opens the soil and thus allows for an undisturbed seed placement.



Serrated discs Better penetration in hard soils



Mounting of discs in pairs Increased clearance for better performance



Adjustable side plates Ensures even levelling between passes Front packer



Side view packer and seed coulter



Easy working depth adjustment Hydraulic adjustability during operation



Maintenance-free bearings Long operation times with little wear and tear



Disc adjustment as track eradicators (optional)



Stepless coulter pressure adjustment Manual adjustment increases the pre-load of the rubber elements

The integrated uniformer guarantees a fixing of the seed at the bottom of the seed furrow even at high operational speeds. A carbide coated scraper keeps the area between the discs clean and prevents blocking even in cohesive and wet conditions. The 5- or 7.5-cm-wide press wheel guarantees optimum seed-soil contact and an exact depth control.

In addition to the excellent adaption to the soil the TurboDisc seed impresses by its easy handling: coulter pressure and sowing depth do not influence each other when being adjusted. The maintenance-free rubber bearing of the seed coulters transfers a coulter pressure of 120 kg and thus guarantees a smooth coulter – at an operational speed of up to 20 km/h. Moreover, the rubber bearing acts as an overload protection and shock absorber for stones.



Uniformer and scraper Secure seed placement in wet conditions



DoubleDisc coulter Straight discs with inner maintenance-free bearings

Effective coulter shock absorption Maintenance-free, minimum wear and tear mounting



Shock absorbed mounting Good contour-following capability and overload protection

## HORSCH FERTILISER SYSTEMS



# a series in the second second

### Grain & Fertiliser

The G & F system allows for simultaneously applying seed and fertiliser as a contact fertilisation. Both metering devices meter into a common distribution tower. Thus, seed and fertiliser are placed together in one furrow. The fertiliser is directly available to the plant, thus contributing to a fast early growth. This system should only be used in the appropriate climatic conditions and upon consultation of a plant production expert.

### Micro-granular unit

The micro-granular compound is transported to the seed pneumatics via an auger metering device and is placed in the seed furrow together with the seed. The extremely resistant stainless steel auger can also be used for aggressive compounds.

### PPF system - economic and precise placement of fertiliser

The PPF system allows for a simultaneous application of seed and fertiliser. Via separate fertiliser coulters the fertiliser is placed only a few centimetres below the seed furrow in wet soil.



Compact metering unit Precise metering with electric motor









Micro-granular metering device Pronto 3–6 DC (single hopper)

Micro-granular double hopper for G & F systems with two auger metering devices

Double venturi for simultaneously applying fertiliser in one flow

PPF fertiliser coulter Maintenance-free coulter with high coulter pressure



Large double hopper Hopper capacity up to 5 000 l, partition 40:60



Contact fertilisation in combination with HORSCH SingularSystem (Pronto 6 DC)



Placement of fertiliser and seed via two divided inlets - combines the advantages of single grain seed and contact fertilisation in rape and cereals



By placing seed and fertiliser separately, large quantities can be applied in dry conditions. The fertiliser depot can be used by the crop in an optimum way and stimulates the roots to grow downwards.

Variable depth adjustment Fertiliser placement between two seed rows, in the centre line of the tyre

Two identical metering units Precise metering of seeds and fertiliser



# **THE HORSCH SINGULARSYSTEM** with the Funck metering device

### Seed coulter

- The design of the seed coulter and the main characteristics like the coulter pressure of up to 120 kg are identical to the well-proven TurboDisc coulter.
- Depending on the conditions an operational speed of up to 10 km/h is possible.
- The well-proven DoubleDiscs open the seed furrow. An integrated skid forms the seed furrow and guarantees an exact placement.
- A height-adjustable catching roller allows for a defined placement of the seed and creates the necessary seed-soil contact.
- After the catching roller the well-known press wheel closes the furrow and controls the depth of the seed coulter.





Skid

### Catching roller

### Seed

- To guarantee an undisturbed and exact mechanical singulation of the grains, the seed has to be even sized and clean.
- The homogeneity of the seed and thus, its suitability for the system can be determined by means of the HORSCH shaker box.
- Generally the grains should be in the second or third chamber of the shaker box.
- If the grains end up in the first or last chamber, this seed is not suitable for singulation (in this case the Bypass system can be used).

### Which sieving?

	Rye	Barley	Wheat	Rape	
1	> 4.1	> 4.1	> 4.1	> 3	
2	3.3-4.1	3.3-4.1	3.3-4.1	2.5-3	
3	2.5-3.3	2.5-3.3	2.5-3.3	2-2.5	
4	< 2.5	< 2.5	< 2.5	< 2	

Sieve gradings in mm for different crops (green = good, red = not ok)



- The structure of the central metering unit and the pneumatic system are identical to the conventional seed drills.
- The singulation of the grains is made by the Funck metering device on the seed coulter with up to 100 grains/sec.
- Singulation is carried out mechanically by crop-specific pockets in the singulation disc inside the Funck metering device.
- The desired seed rate in grains/m<sup>2</sup> and the thousand seed weight are entered in the terminal.
- The calibration test is carried out according to the well-known system.
- Every singulation disc is driven by an own electric motor
  (1 000 2 000 rpm), monitored by the software and controlled automatically depending on the operational speed.
- Depending on the seed rate 1, 2 or 4 pockets can easily be put into the singulation disc without any tools.
- Different pockets are available for wheat, rye, bayley, rape and peas.

### Singulation discs



with pocket rape

with pocket wheat



HORSCH shaker box with optimum wheat HORSC

HORSCH shaker box with optimum rape

- The seed is transported to the seed furrow via the fall tube.
- From an agricultural point of view the use of the system makes sense up to a seed rate of 250 grains/m<sup>2</sup>. Beyond this limit the singulation effects are only marginal.
- In case of high seed rates, unsuitable seed or if catch crops are to be sown, the delivered Bypass system allows for sowing conventionally.



Bypass system for seed rates beyond 250 grains/m $^{2}$  or seed that is not suitable for singulation

# **ELECTRONICS** $\mathbf{A}$ INNOVATIVE AND DIGITAL SOLUTIONS

### HORSCH Intelligence

The machines of the future co-operate actively and HORSCH Intelligence allows for it. With intelligent software and electronic solutions HORSCH machines work even more efficiently and help you to save money and nerves.

HORSCH technology is always equipped with ISOBUS standard. This does not only mean that every HORSCH machine can be controlled with any ISOBUS terminal. In addition, every HORSCH machine with a job computer can, as a standard, carry out functions like SectionControl, VariableRate or the order processing with the TaskController as soon as the necessary licences have been activated.

### SectionControl

The ISOBUS SectionControl function allows for an automatic section control. The current position of the machine is determined via GPS. At the field boundaries, on the headlands or near obstacles, sections or the whole working width are switched off automatically and thus overlapping is avoided.

### Advantages of SectionControl

- Saving of seed and fertiliser as overlapping is reduced to a minimum.
- Constant working quality on the whole field
- Productivity increase under various conditions (day and night, fog)
- Reduced stress for the driver
- Protection of the environment

### TaskController

The ISOBUS TaskController allows for easily transferring data from the PC to the terminal. It also is possible to transfer and document seed rates, sown hectares and other data that were recorded while sowing from the terminal to the PC. This facilitates the administration of the acreage index. Orders can be created and worked off via the integrated order handling management.

### Advantages of the TaskController

- Uncomplicated data exchange
- Automatic documentation
- Structured working due to data management
- Simple administration of the acreage index
- Simple accounting and proof for contract services

### VariableRate

ISOBUS VariableRate allows for a site-specific application of seed and fertiliser. Thus, with an appropriate application card for every section within a field the optimum quantity of fertiliser and seed can be applied.

### Advantages of VariableRate

- Saving of seed and fertiliser as only the necessary quantity is applied
- Homogeneous emergence with an optimum number of grains/m<sup>2</sup>
- Simple and quick documentation
- The different application rates are documented automatically. - Uncomplicated transmission to the acreage index
- application rate
- Only the necessary amount of fertiliser is applied.



WITHOUT SectionControl



WITH SectionControl



il quality	Seed	Fertiliser		
gh	300 grains/m <sup>2</sup>	2.8 dt/ha Pk		
edium high	270 grains/m <sup>2</sup>	2.5 dt/ha Pk		
edium low	250 grains/m <sup>2</sup>	2.3 dt/ha Pk		
w	220 grains/m <sup>2</sup>	2.0 dt/ha Pk		

VariableRate Seed OR fertilise

VariableRate with MultiControl Seed AND fertilis

Variable Rate allows for applying site-specific quantities of fertiliser and seed by means of application maps





HORSCH Terminal



Touch 800 Terminal



Touch 1200 Terminal

Terminals

### **MultiControl**

When using a HORSCH Touch 800/1200 terminal you can also use the MultiControl function. If SectionControl is activated, MultiControl allows for switching on and off seed and fertiliser independently. If sowing is carried out in a site-specific way with VariableRate, MultiControl varies the quantity of fertiliser and seed independently. Without MultiControl, SectionControl allows for either switching on and off either seed or fertiliser at the right time respectively VariableRate allows for varying either seed or fertiliser.







## EQUIPMENT













Single hopper

Radar sensor

Smooth, precise metering rotors

Hydraulic filling auger

Tank discharge opening

Tool box



ORSCH



LED lighting for Pronto 3/4/6 DC











Front packer Pronto 7/8/9 DC

Lights

Track eradicators









Half-width shut-off of Pronto 8/9 DC



Draw linkage

2-point linkeage





Hydraulic Crossbar

Hydraulic coulter pressure adjustment is available as an option

Hydaulic fan

PTO driven pump

Tramline system

Stop slide Pronto single hopper version

Robust control sensors

Brake system



Marker





Ball head coupling

Pre-emergence marker

Optional SteelDisc front packer Pronto 4 DC rigid

Simple calibration Quick and precise calibration

# TECHNICAL SPECIFICATIONS



ORSCH Pronto DC	3 DC	4 DC	4 DC rigid	6 DC	HORSCH Pronto DC	7 DC	8 DC	9 DC	
/orking width (m)	3.00	4.00	4.00	6.00	Working width (m)	7.50	8.00	9.00	
ransport width (m)	3.00	3.00	4.00	3.00	Transport width (m)	2.99	2.99	2.99	
ransport height (m)	2.95	2.95	2.95	3.60	Transport height (m)	3.60	3.70	3.97	
ength (m)	6.40	6.90	6.80	8.20	Length (m)	8.30	8.25	8.50	
de load (kg)*	2 700-3 500	4 100-5 350		5 700-7 900	Axle load (kg)*	7 500-9 400	7 800-10 150	9 200-11 200	
rtical load (kg)*	550-1 200	700-1 450		700-1 600	Vertical load (kg)*	750-1 700	750-1 800	750-1 800	
ed hopper capacity (l)	2 800	2 800	2 800	3 500	Seed hopper capacity (I)	4 000	4 000	4 000	
pacity double hopper (I)	3 800 (40:60)	3 800 (40:60)	3 800 (40:60)	5 000 (40:60)	Capacity double hopper (I)		5 000 (40:60)	5 000 (40:60)	
pper capacity micro-granular unit (I)	100	100	100	250	Dimension feed opening (m)	1.00×2.40	1.00 x 2.40	1.00×2.40	
ed opening single hopper (m)	1.00x2.40	1.00x2.40	1.00x2.40	1.00 x 2.40	Feed opening double hopper (m)		0.66x2.45	0.66x2.45	
ed opening double hopper (m)	per 0.66x0.90	per 0.66 x 0.90	per 0.66 x 0.90	0.66 x 2.45	Filling height (m)	3.10	3.10	3.10	
ing height (m)	2.49	2.49	2.49	2.88	Number of seed coulters	52	52	60	
ing height double hopper (m)	2.90	2.90	2.90	2.95	Coulter pressure seed coulters (kg)	5-120	5-120	5-120	
nber of PPF coulters	10	14	14	20	Seed coulters/press wheels Ø (cm)	34/32	34/32	34/32	
lter pressure PPF coulters (kg)	up to max. 200	up to max. 200	up to max. 200	up to max. 200	Row spacing (cm)	14.4	15.4	15	
nber of seed coulters	20	28	28	40	Tyre packer size/Ø (cm)	7.50-16 AS/78	7.50-16 AS/78	7.50-16 AS/78	
Iter pressure seed coulters TurboDisc (kg)	5-120	5-120	5-120	5-120	Working speed (km/h)	10-20	10-20	10-20	
d coulters/press wheels Ø TurboDisc (cm)	34/32	34/32	34/32	34/32	Power demand (kW/hp)	145-205/200-280	155-215/210-290	175-240/240-330	
Iter pressure seed coulters PowerDisc (kg)	5-150	5-150	5-150	5-150	Double-acting control devices	Double-acting control devices		3 (resp. +1 for filling auger, front packer)	
d coulters/press wheels Ø PowerDisc (cm)	38/34	38/34	38/34	38/34	Depressurized return flow (max. 5 bar	) 1	1	1	
v spacing (cm)	15	14.3	14.3	15	Oil quantity hydr. fan (l/min)	35-45	35-45	35-45	
e packer size	7.50-16 AS	7.50-16 AS	7.50-16 AS	7.50-16 AS	Lower link linkage	Cat. III-III/IV	Cat. III-III/IV	Cat. III-III/IV	
e packer Ø (cm)	78	78	78	78	Adj. draw linkage	Bolt Ø 40-50 mm	Bolt Ø 40-50 mm	Bolt Ø 40–50 mm	
rking speed (km/h)	10-20	10-20	10-20	10-20	Ball-type linkage	K 80	K 80	K 80	
ver demand (kW/hp)	80-110/110-150	95-130/130-180	95-130/130-180	120-185/160-250	* Weight of the machines unloaded with minim	* Weight of the machines unloaded with minimum/maximum equipment			
Ible-acting control devices	3 (resp. +1 for filling auger, coulter pressure adjustment, Crossbar)								
ressurized return flow (max. 5 bar)	1	1	1	1					
quantity hydr. fan (l/min)		20-25 single h	opper/35-45 double hopper						
wer link linkage	Cat.   /   -   -   / V	Cat.   /   -   -   / V	Kat.   /   -   -   / V	Cat.   /   -   -   /IV					
lj. draw linkage				Bolt Ø 40-50 mm					
all-type linkage				K 80					

\* Weight of the machines unloaded with minimum/maximum equipment



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