

# HOLDER

## Innovation with a long tradition

Generations of farmers know HOLDER as a pioneer in agricultural engineering, who from the beginning developed innovations for practical operation.

In 1898 the first automatic knapsack of HOLDER came to the market.

In 1927 the first motorized knapsack sprayer was invented as well as the first automotive two gear engine tree and hop sprayer. "The HOLDER" had become a synonym for the first universal useable walking tractor. The list with HOLDER innovations could be easily extended. As additional milestones it can be mentioned:

the articulated tractor, the "integrated system" and also the OVS Radial fan.

Result: HOLDER builds future orientated technology, which combines environmental protection and economic efficiency.



Viniculture, fruit farming, hop cultivation

## Plant protection and tractors

The whole program for viniculture, fruit farming, hop cultivation



# HOLDER

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## A perfect unit

For over 110 years the name HOLDER has stood for competent solutions in plant protection. A competence that is reflected in an outstanding product line. From tractors to rear mounted or trailed field sprayers and latest fan technology, one finds everything in the HOLDER program for viticulture, fruit farming and hop cultivation.

## Even the new world drives HOLDER



Plant protection and tractor technologies developed in Metzingen are in demand over ever enhancing HOLDER's worldwide reputation. Whether on New Zealand's Kiwi plantations, developing wine growing areas or the oldest known vineyard products of the Swabian special list are treasured for their practical applications. Also with made to measure solutions HOLDER shows flexibility in production and an orientation towards the customer.

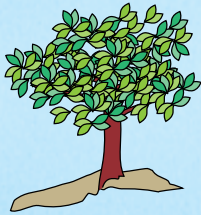
## Highest quality for viticulture, fruit farming and hop cultivation

As a pioneer in this branch HOLDER offers a complete program combining tank, fan, pump and even the right tractor. Because of this modular organization HOLDER reaches a high efficiency.

## HOLDER ...



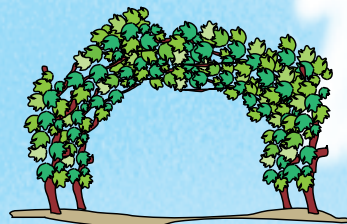
... in viticulture



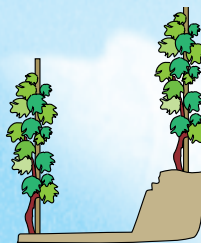
... for fruit farming



... for hop cultivation



... in pergola plantations



... in terraced shaped areas

# The components for viticulture, fruit farming and hop cultivation

## Fan technology (page 4)

Four types of fans cover all operative ranges for a future orientated viticulture, fruit farming and hop cultivation

### 1. the variable cross flow fan OVS in three variations



output  
22.000 m<sup>3</sup>/h  
35.000 m<sup>3</sup>/h + 50.000 m<sup>3</sup>/h  
42.000 m<sup>3</sup>/h + 60.000 m<sup>3</sup>/h

### 2. the cross flow blower QU in three variations



output  
23.000 m<sup>3</sup>/h  
28.000 m<sup>3</sup>/h  
35.000 m<sup>3</sup>/h

### 3. the cross flow fan TL with air conduction in two variations



output  
20.000 m<sup>3</sup>/h  
22.000 m<sup>3</sup>/h + 33.000 m<sup>3</sup>/h

### 4. the reverse axial flow blower TU



output  
22.000 m<sup>3</sup>/h

## Tank technology (page 8)

Highest functionality and performance in two variations

### 1. rear mounted variation AS



capacities  
200 litre  
300 litre  
400 litre

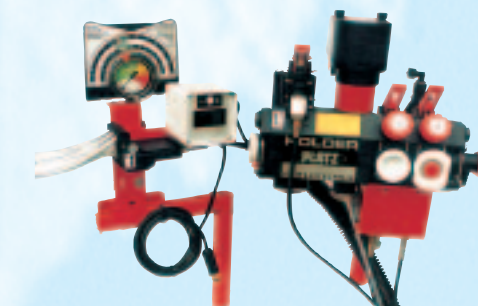
### 2. p.t.o.driven trailer variation NI



capacities  
500 litre · 800 litre · 1000 litre  
1500 litre · 2000 litre

## Dosing technology (page 10)

Exact dosing with an optimum in operation comfort



## And ...



Also a HOLDER!  
The knapsack sprayer is the smallest unit in the plant protection program of HOLDER.

## Tractor technology (page 12)

HOLDER offers different product lines of articulated four wheel tractors for the use in viticulture, fruit farming and hop cultivation.

A class of its own with

- articulated steering
- permanent four wheel drive
- four equal sized wheels
- live p.t.o.
- a minimal turning radius

### A-Tracs



e.g. A-Trac 7.72

### C-Tracs



e.g. C-Trac 9.72



e.g. A-Trac 7.62



e.g. C-Trac 2.42



e.g. A-Trac 5.58

# The HOLDER fan program



## Optimal-variable-symmetrical: Radial fan OVS

### Totally variable

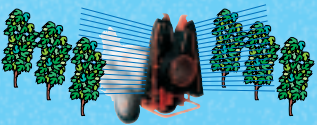
The totally variable radial fan OVS offers a true radial conveyer technology in three variations. An optimal and environmental friendly treatment of all cultivations is reached with a fully adjustable air direction without the basic stream and two separate radial fans for the same outlet in every position.

### The variable radial fan in three variations:

**OVS 25**  
Multi usage, 22.000 m<sup>3</sup>/h and true radial technology

**OVS 50**  
Powerful radial fan with 35.000 m<sup>3</sup>/h and 50.000 m<sup>3</sup>/h and gear box

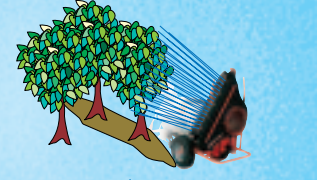
**OVS 60**  
An extreme powerful fan for an environmental friendly treatment of high growing fruit or hop orchards, 42.000 m<sup>3</sup>/h and 60.000 m<sup>3</sup>/h.



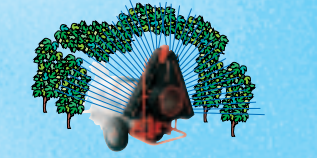
steady output in every position of the fan



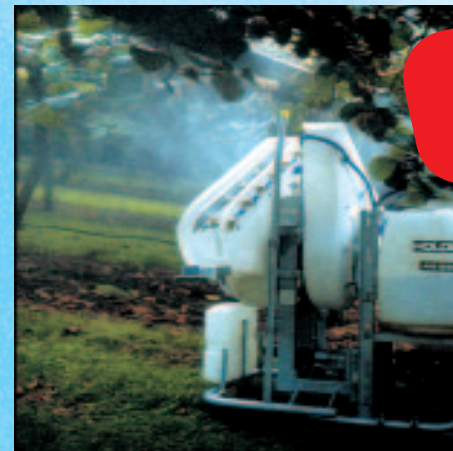
highest efficiency in terraced shaped areas



best performance even in plantations with tall trees



steady output in pergola plantations



A true HOLDER innovation with many awards



### Advantages of the OVS innovation

- ◆ absolutely irrotational air penetration
- ◆ exact symmetrical air stream
- ◆ adjustable fan
- ◆ to be mounted on 3 pt. linkage as well as on trailed sprayers
- ◆ old machines are easily retrofitted
- ◆ fan can be switched on and off
- ◆ very low noise

# The HOLDER fan program



## Highest standard with an optimum in spraying quality: Tangential Fan QU

The air stream created by a tangential fan is very efficient and therefore it is optimal to use for thick foliage.

By means of a horizontal air stream, technical drift is mostly reduced. As a result, the environmental pollution is reduced and the efficiency of the plant protection increases.

By varying the heights of the fans the optimal machine for every planting system can be created.

### Plus:

In fruit farming the real tangential fan QU reaches up to 90% drift reduction equipped with the appropriate jets if the usage regulations are properly observed.

### Three variations:

QU 14	23.000 m <sup>3</sup> /h
QU 15	28.000 m <sup>3</sup> /h
QU 16	35.000 m <sup>3</sup> /h



Proved technology on high level

## Diagonal flow fan TL



The improved series of this fan with diagonal and backwards directed air stream improves the application and avoids re-sucking of the chemical by the fan. With adjustable air baffles the sprayer can be adapted to the cultivation.

The usage of high quality material guarantees a long use.

### Plus:

The diagonal flow fan reaches a 50% drift reduction if the usage regulations are properly observed. With the jets Agrotop TurboDrop 80-02 ceramics or Lechler ID 90-02 C for example a 50% drift reduction can be reached in fruit farming.

### Two versions:

TL 52	20.000 m <sup>3</sup> /h
TL 62	22.000 m <sup>3</sup> /h and 33.000 m <sup>3</sup> /h

## The reverse axial flow blower

The advantage of the reverse axial flow blower technology is the air intake from the front. Consequently re-sucking of the chemicals by the fan is avoided. The totally galvanized conveyers can be switched off.



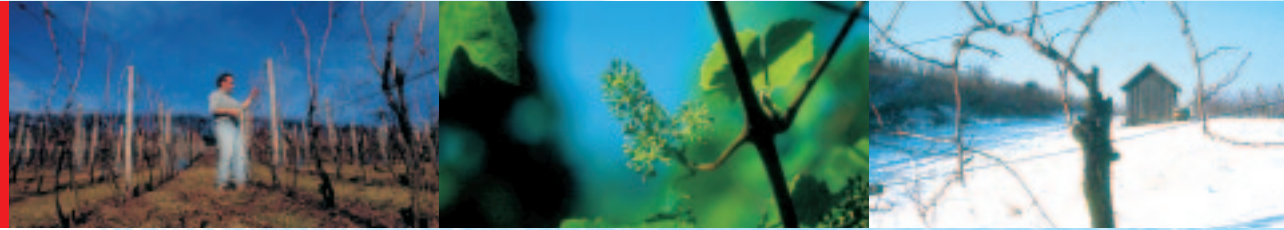
### Plus:

The diagonal flow fan reaches a 50% drift reduction if the usage regulations are properly observed. With the jets Agrotop TurboDrop 80-02 ceramics or Lechler ID 90-02 C for example a 50% drift reduction can be reached in fruit farming.

### Performance:

TU 20	22.000 m <sup>3</sup> /h
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Environmentally friendly and economic:  
**HOLDER tank technology**



## Three point linkage mounted sprayers AS

BBA-Nr.: E 81

The new tank- and frame design enables a solid and light construction with increased stability. A central support, integrated in the frame, transmits the forces straight to the tractor. This ensures a safe operation even under difficult conditions. This low sump is responsible for little residues and the galvanizing protects the sprayer against aggressive chemicals. Serial parts are a separate hand wash tank, and up from 400 l sprayers a flushing tank and an interior washing system.

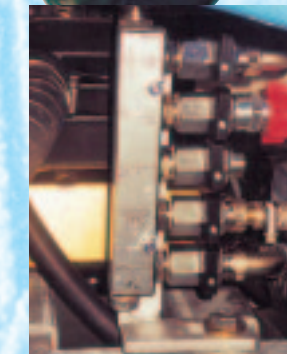


**Capacities:**

AS 220	200 Litre
AS 320	300 Litre
AS 420	400 Litre

## Trailed sprayer NI

BBA-Nr.: E 577



central sucking device



second filler neck and integrated hand washing tank

NI is a concept for all kinds of cultivations.

- ◆ continuously adjustable axles enable the adaptation to various conditions
- ◆ soil protecting tyre equipment depending on machine: 195/60-14 to 400/60-15,5
- ◆ the protected sucking device with five connections for
  1. continuously adjustable injection agitator
  2. container with interior cleansing apparatus
  3. three connections for spraying gun, injection etc.
- ◆ a second filler neck: easy filling and a washing in of chemicals
- ◆ separate hand washing tank integrated in liquid tank
- ◆ a huge reservoir of scouring water for all environmental necessary proceedings and tank interior
- ◆ and outside cleaning, rinsing and disposal of technical residues

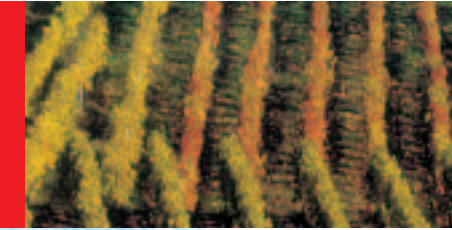
**Capacities:**

NI 500	500 Litre
NI 800	800 Litre
NI 1000	1000 Litre
NI 1500	1500 Litre
NI 2000	2000 Litre

# HOLDER Dosing technology

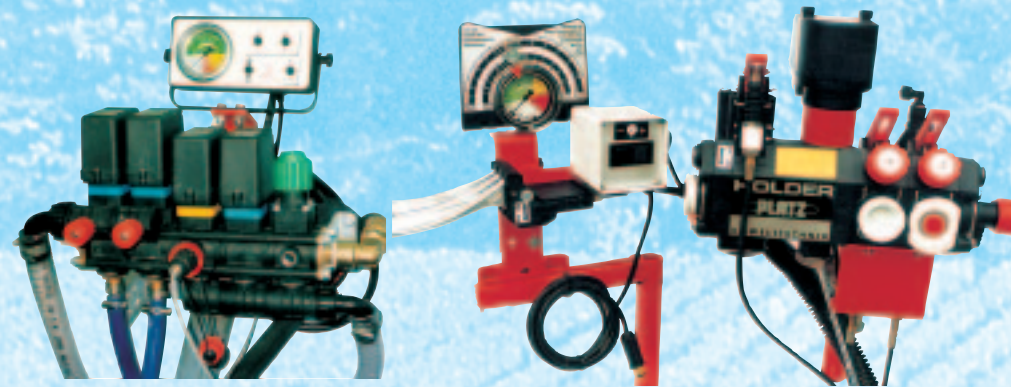


# Accessories



## Expansible and comfortable HOLDER-DOSICONTROL®

The HOLDER Dosicontrol system offers a comfortable remote control from the tractor and a solid designed control device at the sprayer. Fitted as a standard the unit offers an integrated pressure filter, a re-sucking device and a constant pressure adjustment for the sections. The system can easily be extended with more sections. The filter volume increases with every additional section. The use of high quality materials, as reinforced synthetics, stainless steel and sealings made of Viton, ensures stability and readiness for use.



shaped landscapes.

**Electrical fan adjustment**  
The conveyer units can be adjusted independently from each other. This is a big advantage in terrace



**Hose reel**  
Up to 100 m hose can be rolled up properly.

**High pressure spray gun**  
Easy handling for easy to work with.



## HOLDER diaphragm pump

The heavy duty piston diaphragm pump are designed for high output in permanent use and available as 3, 4 or 5 cylinder models. Additionally coupled with an air chamber, they guarantee a constant, vibration free airstream even with high pressure. Also it is possible to work with a spray gun. Because of the actuation in an oil bath they are especially easy to maintain and do not wear out very much.



Type	capacity	pressure
MR 55	53 l/min	40 bar
MR 75	71 l/min	40 bar
MR 110	94 l/min	40 bar
MR 125	118 l/min	40 bar
MR 150	145 l/min	50 bar

## The HOLDER construction kit

### For mounted sprayers AS

Model	height of culture	fan	pump	dimensions in cm	weight in kg
Capacity type	m <sup>3</sup> /h	m/sec	type	l w h	empty full
200 l AS 220	up to 4,0 m	22000/33000	17/19 TL 62	MR 75	113 84 130 220 445
200 l AS 220	up to 4,0 m	22000	27 OVS 25	MR 75	132 84 155 230 454
200 l AS 220	up to 2,2 m	23000	18 QU 14-1	MR 75	97 90 196 266 491
300 l AS 320	up to 4,0 m	22000/33000	17/19 TL 62	MR 75	115 95 144 255 590
300 l AS 320	up to 4,0 m	22000	27 OVS 25	MR 75	135 95 155 265 600
300 l AS 320	up to 2,2 m	23000	18 QU 14-1	MR 75	97 95 196 292 627
400 l AS 420	up to 4,0 m	22000	27 OVS 25	MR 75	135 104 155 305 730
400 l AS 420	up to 2,2 m	23000	18 QU 14-1	MR 75	97 104 196 332 757

### Trailed sprayers NI

Model	height of culture	fan	pump	dimensions in cm	weight in kg	tractor performance starting with kW/hp
Capacity type	m <sup>3</sup> /h	m/sec	type	l w h	empty full	
500 l NI 500	up to 2,2 m	23000	18 QU 14-1	MR 75	240 100 215 502 1052	21/28
500 l NI 500	up to 4,0 m	22000/33000	20/22 TL 62	MR 75	268 100 175 415 965	21/28
500 l NI 500	up to 4,0 m	22000	27 OVS 25	MR 75	260 100 155 419 969	21/28
800 l NI 800	up to 2,2 m	23000	18 QU 14-1	MR 75	313 100 221 519 1399	22/30
800 l NI 800	up to 4,0 m	22000/33000	22 TL 62	MR 75	332 100 160 436 1316	22/30
800 l NI 800	up to 4,0 m	22000	27 OVS 25	MR 75	321 100 175 440 1320	22/30
1000 l NI 1000	up to 4,0 m	22000	27 OVS 25	MR 75	342 121 175 530 1630	30/40
1000 l NI 1000	up to 9,0 m	35000/50000	25/35 OVS 50	MR 75	372 121 186 690 1760	30/40
1000 l NI 1000	up to 2,6 m	28000	18 QU 15-1	MR 75	314 121 261 573 1673	30/40
1000 l NI 1000	up to 3,0 m	35000	18 QU 16-1	MR 75	314 121 301 5582 1682	32/44
1500 l NI 1500	up to 9,0 m	35000/50000	25/35 OVS 50	MR 125	377 142 220 725 2400	44/60
2000 l NI 2000	up to 12,0 m	42000/60000	32/43 OVS 60	MR 125	442 146 220 825 2925	59/80

## The smallest unit: The HOLDER knapsack

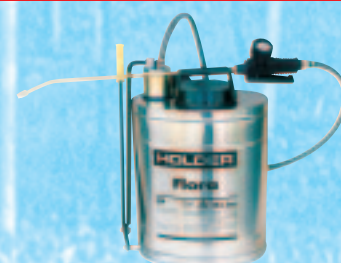
The knapsack is the smallest and most compact unit in plant protection.

Since 1898 this HOLDER invention has set the standard for the technology of self-instructed knapsacks.



e.g. self-instructed knapsack PLANTA

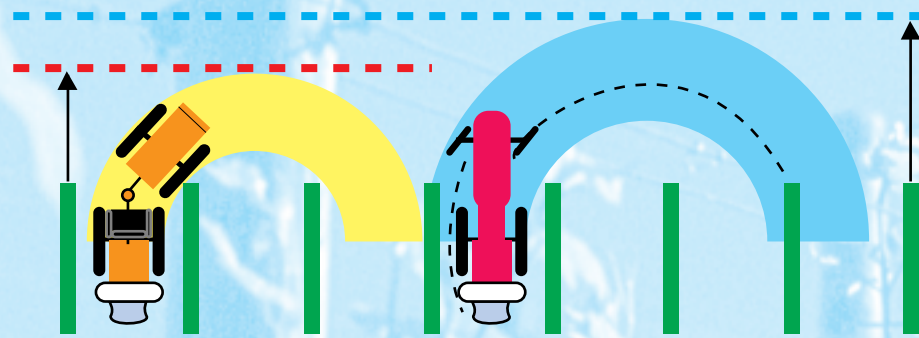
two varieties for 5 or 10 l



e.g. knapsack with piston pump FLORA for 18 l

## Typical for HOLDER A- and C-Tracs:

Articulated steering, four equal sized wheels, four wheel drive, wheel stabilizer, manoeuvrability



### The articulated steering

Because conventional tractors steer by the front wheels, the tire tracks differ from front to rear. HOLDER tractors, being articulated, will follow the same contours and any attachment will do the same (i.e. tow behind sprayer tracks). This provides less soil compaction, a much tighter turning radius and outstanding manoeuvrability.



A-Trac 7.72

**Environmental friendliness  
in every tractor**  
Chromate and lead free paint, asbestos  
free brake shoes and clutches,  
biodegradable hydraulic oil

### The HOLDER compactness

A minimum width and a maximum in road clearance is a HOLDER tradition. Depending on the tires, working in aisles starting with 1,40 m (!) is possible.

So the whole power will be performed even in the smallest lanes. The high road clearance is most important for driving in extreme slopes.

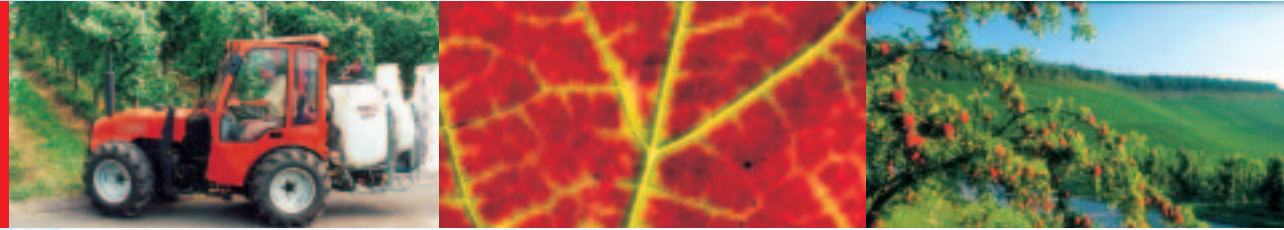
### Real four wheel drive

Real permanent four wheel drive combined with four equal sized tires provides outstanding performance and power when the tractor is called upon to push or pull. Hydraulically engaged, the differential lock can contribute to this by acting on all four wheels. By design, articulated tractors follow the exact contours of their wheels greatly enhancing traction and limiting soil compaction in particular with the HOLDER optimum balanced weight transfer to the wheels, And: the brakes acting on all four wheels guarantee performance and maximum safety under the most extreme conditions.

### The HOLDER wheel stabilizer

Without relying on a complicated electronic or mechanical set-up this system ensures reliable stability, even under extreme conditions. Located under the articulation point this unique yet simple mechanism pressures all four wheels equally to the ground ensuring maximum safety and optimum power transfer.

# Intelligent engineering



## The engine

Reliable Deutz engines of the 1011 series, which are economical, reliable, environmentally friendly and of low maintenance provide outstanding performance and torque characteristics.

## Flexible reverse gear

The synchronized reverse transmission offers up to 16 forward and backward gears. In the main field of action there are 8 gears to operate. The speed increasing ratio guarantees an optimum in graduation for all usage.

## P.t.o.-engageable under load

Using a multiple disk clutch the p.t.o. in the front and rear is engageable under load (independently from travelling mechanism). The direct actuation of the engine produces a very high efficiency. Different p.t.o. speeds can be offered.



A-Trac 5.58



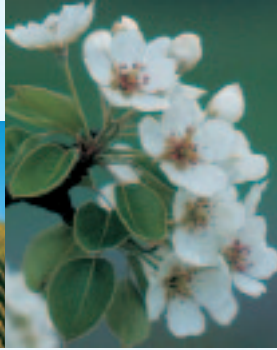
A-Trac 5.58

Over all width starting with 90 cm depending on wheels



A-Trac 7.62 with full cab

# Useful components...



# ...complete the tractor



## Three point linkages – front and rear

(A 7.62 and A 7.72)  
This system optimised for the articulated tractor, has a lower link arm frame, quick attach couplers and two double acting hydraulic lift cylinders. The front lift is adjustable from Cat I to Cat II.



The quick attach couplers make the mounting of all accessories easy and simple. The rear lift is adjustable from Cat NI to Cat I. Cat NI is used for extremely close mounted attachments. Pendulum and lateral inclination adjustment

guarantee a use in difficult slopes and can be adjusted directly from the driver's seat. Optional this system is available in a hydraulic version.

## Choose between a foldable safety bar, a partial cab or a full cab

The tractors of the vineyard series can be equipped either with a foldable safety bar, a partial cab or a full cab. The partial cab consists of front window and roof. The high quality full cab provides all-around comfort. A two stage heating and ventilation system completes this high standard. An integrated air conditioning system can be mounted as well as a separate charcoal filter to avoid the intake of chemical particles during the spraying operation.



## The ergonomic driver's seat

- ◆ mounted on a sound and vibration isolating through
- ◆ the driver's seat is adjustable to height, longitude and weight. Optional is an air-cushioned driver's seat
- ◆ easy access to driver's seat
- ◆ an ergonomical arrangement of the operational control
- ◆ adjustable steering wheel
- ◆ easy use of flip switch for the differential lock



## Highest safety in extremes: The precipice safety brake

If one talks about using a HOLDER in precipices, then safety is guaranteed. For a high hill climbing ability and pull power at a very high tip stability the permanent four wheel drive with four equal sized

wheels and the wheel stabilizer are responsible for that. As a reasonable complement HOLDER offers a precipice safety brake. This brake works with two parallel arranged spikes for breaking. They are operated

hydraulically through a lever. They cut in the ground and keep the tractor onto the ground. Even with the engine turned off the safety brake can be used.



a professional cut is always provided from the front mounted flail mower



leafcutting



a front mounted unit optimizes the mechanical treatment under the vines



rotating brooms enable an economical and environmentally friendly method of clearing between the vines



an effective circle mulcher



a perfect soil cultivation



# The C-Tracs for viniculture and fruit farming



C-Trac 9.72

The fruit farming specialists C-Trac 9.62 and 9.72 as well as C-Trac 2.42

A 16 gear reverse gear box or optional with hydrostat.



C-Trac 2.42



C-Trac 2.42



C-Trac 2.42



C-Trac 9.62

## Technical Data

	A 5.58	A 7.62	A 7.72	C 2.42	C 9.62	C 9.72
Engine:	Deutz Turbo engine					
Power:	40 kW / 54,4 PS	44 kW / 60 PS	51,1 kW / 70 PS	31 kW / 42 PS	44 kW / 60 PS	51,5 kW / 70 PS
Cylinder:	3	4	4	4	4	4
Cooling:		integrated oil/air cooling	dry air filter	water cooling		integrated oil/air cooling
Air filter:	51 ltr.		40 ltr.	27 ltr.		86 ltr.
Tank capacity:			40 ltr.			86 ltr.
Drive clutch:			one-disc clutch			
Transmission:	fully synchronized, reverse gear, 12 forward and 12 reverse gears; permanent four-wheel-drive	fully synchronized, reverse gear, 16 forward and 16 reverse gears; permanent four-wheel-drive acting on front and rear axle, hydraulically operated	fully synchronized, reverse gear, 16 forward and 16 reverse gears; permanent four-wheel-drive acting on front and rear axle, hydraulically operated	40 km/h	40 km/h	40 km/h
Differential lock:					hydrostatic four-wheel-drive	permanent four-wheel-drive
Maximum speed:	30 km/h	40 km/h	40 km/h	40 km/h	40 km/h	40 km/h
P.T.O.:	service and parking brake used as drum brake rear acting on all four wheels		live p.t.o. hydraulically used wet multi disk brake			
Brakes:						
Steering:						
Hydraulic pump:	35 ltr./min					
Hydraulic tank:	18 ltr.					
Lifting capacity:	rear: 3 pt. linkage Kat I (quick couplings) 1.800 dN front: 3 pt. linkage Kat I 700 dN (optional)					
Hydraulic valves:						
Additional valves:						
Charcoal filter for full cab:						
Weight:						
- permission total weight:	2.700 kg	3.200 kg	2.400 kg	2.400 kg	4.500 kg	4.500 kg
- permission axle load front:	1.600 kg	2.000 kg	1.380 kg	1.380 kg	2.500 kg	2.500 kg
- permission axle load rear:	1.600 kg	2.000 kg	1.380 kg	1.380 kg	2.500 kg	2.500 kg
Dimensions:						
- wheel base:	1.448 mm	1.527 mm (1.827 mm with portal axle)	1.530 mm	1.530 mm	1.827 mm	1.827 mm
- overall length:	2.800 mm	3.880 mm	3.050 mm	3.050 mm	4.098 mm	4.098 mm
- height with safety bar:	2.008-2.077 mm					
- height with cab:	1.978-2.047 mm	2.005-2.090 mm	1.950-1.960 mm	1.950-1.960 mm	2.035-2.115 mm	2.035-2.115 mm

## Tractor width with different types of wheels

narrowest track:

701 mm

narrowest total width:

920 mm

882 mm

1.100 mm

740 mm

1.110 mm

280/70 R 18

340/65 R 18

10.5/80 - 18

275/80 R 18

300/70 R 20

31 x 15,50 - 15

33 x 12,50 - 15

33 x 15,50 - 15

350/60 - 17,50

960 mm

1.230 mm