

**Travel in any direction
through electronically controlled
all-wheel steering**

**Sensitive operation with
SOLO-PILOT control lever**

**3-phase AC technology for
travel, lift and steering drives**

**Jungheinrich Curve Control
for optimum stability**

**Hydraulic fork adjustment for
various load widths (optional)**



ETV Q20/ETV Q25

Electric multi-directional reach trucks (2000, 2500 kg)

Jungheinrich multi-directional reach trucks are used wherever long loads are transported in narrow aisles and need to be elevated at height. With their electric all-wheel steering they can transport loads up to 8 m long, maximising space in the warehouse.

There are five travel programs available, ranging from modified normal travel, turning on the spot through to transverse and parallel travel. In "enhanced normal travel" the already small turning radius is reduced further by simultaneous load wheel steering. They also offer the advantages of 360° steering: minimum turning radius and rapid direction change. The

ETV Q is therefore clearly superior to any conventional 4-way reach truck.

Uncomplicated, intuitive handling with ergonomically arranged displays and controls matched with outstanding visibility makes operating the truck child's play. In addition, assistance systems increase productivity:

- Jungheinrich Curve Control reduces the maximum travel speed when cornering, depending on the steer angle.
- Weighing systems allow weights to be checked at the press of a button.
- Mast reach damping reduces mast sway during stacking and retrieval operations, thereby increasing throughput.

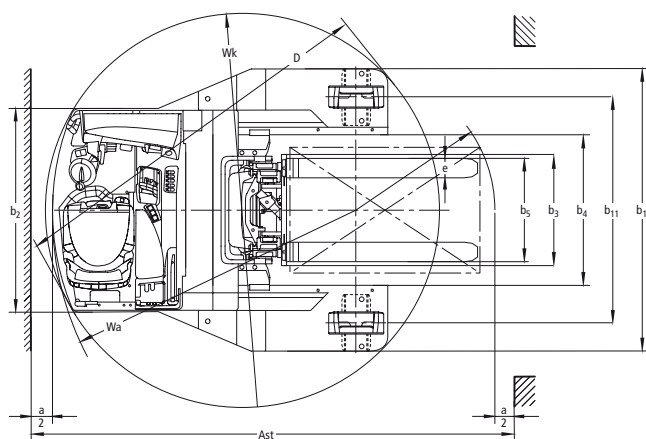
In addition to excellent performance, the trucks offer outstanding efficiency:

- Greater travel/lift performance for more pallet turnover.
- Long uptimes through energy recovery on braking and mast lowering.
- Less aisle width required as a result of the proven reach principle.

A number of options and battery versions ranging from 620 to 930 Ah ensure that the trucks can be adapted to any application.

The diagram illustrates the mechanical components and dimensions of a crane hook system. Key elements include:

- Dimensions:**
 - h_1 : Total height from the base to the top of the vertical support.
 - h_2 : Height from the base to the center of gravity of the hook assembly.
 - h_3 : Total height from the base to the top of the hook assembly.
 - h_6 : Height from the base to the center of gravity of the hook body.
 - h_7 : Height from the base to the bottom of the hook body.
 - h_8 : Height from the base to the point where the cable is attached.
 - l_1 : Horizontal distance from the base to the center of gravity of the hook body.
 - l_2 : Horizontal distance from the base to the center of gravity of the hook assembly.
 - y : Horizontal distance from the base to the point where the cable is attached.
 - x : Horizontal distance from the base to the point where the cable is attached.
 - x_1 : Horizontal distance from the base to the point where the cable is attached.
 - s : Horizontal distance from the base to the point where the cable is attached.
 - c : Horizontal distance from the center of gravity of the hook assembly to the point where the cable is attached.
 - l : Horizontal distance from the center of gravity of the hook assembly to the point where the cable is attached.
 - 210 : A specific horizontal dimension at the base.
- Angles:**
 - α : Angle between the vertical support and the cable.
 - β : Angle between the vertical support and the cable.
- Forces:**
 - Q : Weight force acting downwards at the center of gravity of the hook assembly.
- Other Labels:**
 - m_2 : Mass of the hook body.
 - μ : Coefficient of friction at the contact point.
 - γ : Angle between the cable and the vertical support.



Load centre distance "C" in mm	ETV Q25 (cables)	ETV Q20 (cables)
400	2500	2000
500	2500	2000
600	2500	2000
700	2250	1800
800	2050	1600
900	1850	1450
1000	1650	1350

Mast table ETV Q20/ ETV Q25						
Designation	Closed height h ₁ mm	Lift h ₃ mm	Free lift h ₂ mm	Extended height h ₄ mm	Mast tilt forward/backward α/β (°)	Fork tilt forward/backward α/β (°)
Three-stage mast DZ	2050	4250	1320	4996	1/5	–
	2200	4700	1470	5446	1/5	–
	2300	5000	1570	5746	1/5	–
	2400	5300	1670	6046	1/5	–
	2500	5600	1770	6346	1/3	–
	2600	5900	1870	6646	1/3	–
	2700	6200	1970	6946	1/3	2/5
	2800	6500	2070	7246	0.5/2	–
	2900	6800	2170	7546	0.5/2	2/5
	3000	7100	2270	7846	0.5/2	–
	3100	7400	2370	8146	0.5/2	2/5
	3300	8000	2570	8746	0.5/1	2/5
	3440	8420	2710	9166	0.5/1	2/5
	3540	8720	2810	9466	0.5/1	2/5
	3670	9110	2940	9856	–	2/5
	3840	9620	3110	10366	–	2/5
	3950	9950	3220	10696	–	2/5
	4040	10220	3310	10966	–	2/5
	4140	10520	3410	11266	–	2/5
	4200	10700	3470	11446	–	2/5

Technical data in line with VDI 2198 as at: 05/2011

Identification	1.1	Manufacturer (abbreviation)		Jungheinrich	Jungheinrich	1.1
	1.2	Manufacturer's type designation		ETV Q20	ETV Q25	1.2
		G = fork; E = integrated side shift		G	G	
	1.3	Drive		electric	electric	1.3
	1.4	Operator type		seat	seat	1.4
	1.5	Load capacity/rated load	Q (t)	2	2.5	1.5
	1.6	Lastschwerpunktstand	c (mm)	600	600	1.6
	1.8	Load distance (Centre of load axle to fork face)	x (mm)	380 ¹⁾	503 ¹⁾	1.8
		Mast pushed forward	x ₁ (mm)	230	230	
Weights		Wheelbase	y (mm)	1528	1683	1.9
	2.1	Service weight incl. battery (see line 6.5)	kg	4060 ¹⁾	4150 ¹⁾	2.1
	2.3	Axle loading, unladen front/rear	kg	2310/1750	2490/1660	2.3
	2.4	Axle loading, fork advanced, laden front/rear	kg	670/5390	600/6050	2.4
	2.5	Axle loading, fork retracted, laden front/rear	kg	1940/4120	2260/4390	2.5
Wheels, Chassis	3.1	Tyres		Vulkollan®	Vulkollan®	3.1
	3.2	Tyre size, front	mm	Ø 343 x 140	Ø 343 x 140	3.2
	3.3	Tyre size, rear	mm	Ø 343 x 140	Ø 343 x 140	3.3
	3.5	Wheels, number front rear (x = driven wheels)		1x/2	1x/2	3.5
	3.7	Track width, rear	b ₁₁ (mm)	1420	1420	3.7
Basic Dimensions	4.1	Tilt of mast/fork carriage forward/backward	α/β (°)	1/5 ²⁾	1/5 ²⁾	4.1
	4.2	Closed mast height	h ₁ (mm)	2400	2400	4.2
	4.3	Free lift	h ₂ (mm)	1670	1670	4.3
	4.4	Lift (standard mast)	h ₃ (mm)	5300	5300	4.4
	4.5	Height, mast extended	h ₄ (mm)	6046	6046	4.5
	4.7	Height of overhead guard (cabin)	h ₆ (mm)	2150	2150	4.7
	4.8	Seat height/stand height	h ₇ (mm)	960	960	4.8
	4.10	Height of wheel arms	h ₈ (mm)	442	442	4.10
	4.19	Overall length	l ₁ (mm)	2433 ¹⁾	2518 ¹⁾	4.19
	4.20	Length to face of forks	l ₂ (mm)	1283 ¹⁾	1368 ¹⁾	4.20
	4.21	Overall width	b ₁ /b ₂ (mm)	1760/1270	1760/1270	4.21
	4.22	Fork dimensions	s/e/l (mm)	50/140/1150	50/140/1150	4.22
	4.23	Fork carriage ISO 2328, class/type A, B		2/B	2/B	4.23
	4.24	Fork-carriage width	b ₃ (mm)	800	800	4.24
	4.25	Width across forks	b ₅ (mm)	356/737	356/737	4.25
	4.26	Distance between wheel arms/loading surfaces	b ₄ (mm)	940	940	4.26
	4.28	Reach distance	l ₄ (mm)	664 ¹⁾	727 ¹⁾	4.28
	4.32	Ground clearance, centre of wheelbase	m ₂ (mm)	95	95	4.32
	4.33	Aisle width for pallets 1000 x 1200 crossways	Ast (mm)	2763 ¹⁾	2858 ¹⁾	4.33
	4.34	Aisle width for pallets 800 x 1200 lengthways	Ast (mm)	2802 ¹⁾	2878 ¹⁾	4.34
Performance Data		Truck diagonal	D (mm)	2277 ⁴⁾	2432 ⁴⁾	
	4.35	Turning radius	Wa (mm)	1741 ⁴⁾	1893 ⁴⁾	4.35
	4.37	Length across wheel arms	l ₇ (mm)	1957	2112	4.37
	5.1	Travel speed, laden/unladen	km/h	14/14 ³⁾	14/14 ³⁾	5.1
	5.2	Lift speed, laden/unladen	m/s	0.32/0.60 ²⁾	0.30/0.60 ²⁾	5.2
	5.3	Lowering speed, laden/unladen	m/s	0.5/0.5 ²⁾	0.5/0.5 ²⁾	5.3
	5.4	Reaching speed, laden/unladen	m/s	0.12/0.12 ²⁾	0.12/0.12 ²⁾	5.4
	5.7	Gradeability, laden/unladen	%	7/11	6/11	5.7
	5.8	Max. gradeability, laden/unladen	%	10/15	10/15	5.8
	5.9	Acceleration time, laden/unladen	s	4.6/4.3	5.0/4.4	5.9
E-Motor		Service brake		electric/hydraulic	electric/hydraulic	5.10
	6.1	Drive motor rating S ₂ 60 min.	kW	6.9	6.9	6.1
	6.2	Lift motor rating at S ₃ 15 %	kW	10	10	6.2
	6.3	Battery acc. to DIN 43531/35/36 A, B, C, no		43531 C	43531 C	6.3
	6.4	Battery voltage, nominal capacity K _s	V/Ah	48/620 ¹⁾	48/620 ¹⁾	6.4
	6.5	Battery weight	kg	995 ¹⁾	995 ¹⁾	6.5
Others		Battery dimensions	l/w/h (mm)	1223/355/784 ¹⁾	1223/355/784 ¹⁾	
	8.1	Type of drive control		Mosfet/AC	Mosfet/AC	8.1
	8.2	Operating pressure for attachments	bar	150	150	8.2
	8.3	Oil volume for attachments	l/min	20	20	8.3
	8.4	Sound level at the driver's ear according to EN 12 053	dB(A)	70	70	8.4
1) these values change with different battery sizes 2) mast-dependent 3) in fork direction 11 km/h 4) turning radius for turning on the spot: 1230 mm						

This specification sheet according to VDI regulation 2198 only provides technical values for the standard truck. Non-standard tyres, different masts, additional equipment, etc. could produce other values. Right reserved for technical changes and improvements.

Make use of the advantages

Powerful mast

Jungheinrich masts ensure maximum safety and warehouse utilisation at height.

- Lift heights up to 10700 mm.
- Low clearance heights at high lift heights.
- Extremely long useful life through cold-drawn mast sections.
- High residual capacities at height.
- Patented mast reach damping (optional).
- Energy recovery through patented regenerative lowering (optional).



Jungheinrich masts lift loads at height

Fork adjuster with extended fork shank (optional)

Ideally adjustable to various load widths for safe transporting of long loads.

- Easy adjustment at the press of a button.
- Straddle width up to 2060 mm.



Ergonomic cockpit

- Integrated design with short chassis length for narrow aisle widths.
- Three versions with different chassis widths available.

Ergonomic operator position

The operator position provides ideal working conditions for relaxed, maximum performance.

- Five buttons for rapid and easy travel program selection.
- Comfort seat with adjustment features (seating position/backrest/body weight) for all drivers.
- Numerous storage options.
- Generous space.
- 3-phase steering of all three wheels (can be changed from 180° to 360°).
- Automotive type pedals.

SOLO-PILOT control lever

The control lever for activating all hydraulic functions and also selecting the direction of travel and sounding the horn.

- All the controls are within the field of vision and are clearly designated for a specific function.
- Maximum throughput efficiency due to simultaneous operation of two hydraulic functions (e.g. lifting and traversing).
- Extra attachments – e.g. fork adjuster (optional) – are also controlled by the SOLO-PILOT.
- Precision operation through sensitive application of all functions.
- Comfortable posture with padded armrest.

Easy-to-read driver's display

- Travel direction and wheel position display.
- Battery status with residual time display.
- A choice of three travel programs for individual adaptation to each application.
- Service hours and time.
- Lift height (optional).
- Load weight (optional).



SOLO-PILOT

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