



QUALITY CHANGES THE WORLD



SANY Long Span Water Tower Fire Truck

SANY Group ever saved catastrophe in the history of human being.

Nuclear rescue in Fukushima of Japan

In March 2011, the First Nuclear Power Plant in Fukushima of Japan had explosion and nuclear leakage accident. Japan adopted fire truck to jet water to damaged reactor, however, the water jetting height failed to reach the top of reactor, and the vehicle could not be close to reactor with severe radiation, so the effect was very poor. After screening equipment all over the world, no fire truck could meet rescue requirements, only SANY 62m pump truck could meet requirements for on-site height and span and conform to the site limit. SANY conducted fire control refitting to the 62m pump truck urgently, denoted it to Japan to participate in rescue, injecting water to reactor for temperature reduction.

From March 31 to May 31, SANY fire truck injected water at the nuclear power plant continuously, running in a good condition, without any fault. For SANY fire truck was the sole equipment provide with camera and radiation sensor on the site, the boom was extended for detection frequently, thus becoming the "clairvoyance" for guarding Fukushima nuclear power plant. To reduce radiation danger, SANY developed remote control system which can be operated out of 2km, so as to make the rescue personnel far away from nuclear radiation and to make the rescue action safer.



Nuclear leakage accident of the First Nuclear Power Plant in Fukushima

Nuclear rescue in Fukushima of Japan

Difficulties for Toyoko Electric Power during rescue

The existing fire trucks and military helicopters in Japan cannot reach accurate water injection.

The unit No. 4 to be injected with water is as high as 46m, while no fire truck can reach such height in Japan.

The operation amplitude is narrow, and no engineering machinery in Japan can meet operation conditions.

How to exempt the working personnel from nuclear radiation to the greatest extent during operation?

For the nuclear radiation is very strong, the working personnel could not access to the unit to get to know running situation and water injection effect inside the unit.

Solution of SANY Fire Truck

The boom of SANY fire truck is flexible, and is able to conduct accurate water injection some point.

The length of boom of SANY 62m fire truck completely meets height requirements of No. 4 unit.

SANY 62m fire truck can operate in the region 14m out of the unit, which meets such requirement.

SANY 62m fire truck can realize wireless remote control within 2km scope, which guarantees personal safety to the greatest extent.

The boom terminal of SANY 62m fire truck is provided with camera, which guarantees on-site water injection effect and guarantees real-time observation of situation inside nuclear reactor perfectly.



Fully folded boom large span Elevated jetting fire truck



It wins “the First Prize of Scientific and Technological Innovation Award of China Fire Protection Association” and “the First Prize of the First Innovation Method Contest in China” .



It is appraised as “the most flexible high jetting fire truck of the third generation with multiple freedom degrees in 3D space” by experts in the industry.





Three main functions

Fire
extinguishment

3D full-space fire extinguishment

Water supply

High-rise water supply + suck-back
water supply (optional)

Loading

Loading capability of terminal end 180kg

Fire extinguishment

- Six characteristics: Large span, large flow, large scope, small site, high efficiency, and accuracy

Large-span



The large-span six-section fully folded boom structure is flexible in action, with strong barrier-crossing capability, able to cross various barriers under complicated environment to put out the fire.

Large flow



The hydraulic system with low pressure loss has small pressure loss and large flow, and the maximum water outgoing flow can reach 100L/s.

Large scope



It possesses the horizontal, upward and downward 3D full-space fire extinguishment capability.

Efficient



The boom, water pump and water gun can conduct linkage operation, with the flow unchanged. The boom posture can be adjusted at will, and the impact force of water column can be utilized fully to put out the fire in a diving way.

Small site



The four support legs can support in any position, with the minimum unfolding width only 3.3m, with excellent site adaptability.

Accuracy



The water gun at the terminal end of boom can be adjusted to the target position flexibly, so as to conduct accurate fire extinguishment.

Water supply

- It has the capability of high-rise water supply and suck-back water supply (optional). In special scenes, it can become a supply vehicle for fire extinguishment, and one vehicle can be used for multiple purposes.

High-rise water supply



The terminal end of boom can be extended into the inner of high-rise building, so as to establish trunk line of water supply to low-level region outside rapidly through external interface of terminal end.

Suck-back water supply



Suck-back device

Long-distance barrier-crossing water absorption

Suck-back water outlet

The terminal end of boom can be provided with suck-back device optionally, so as to conduct reversed suck-back water supply through water supply pipeline of boom.

Loading

- It has the capability of long-distance loading, with rated load of 180kg, able to conduct barrier-crossing loading operation in case of any emergency.





Product Characteristics

High reliability

High safety

High intelligence

High reliability

- The support system and boom system all origin from mature concrete pump truck technology of SANY, and they have experiences market examination of more than 40,000 sets of equipment.



- The key and important parts all have undergone digital simulation optimization under full working conditions, as well as 6 million times of limit test verification and 10 million times of actual construction verification.



High safety

- “Person” safety: 50m wired (150m wireless) remote control + 33-56m working amplitude + firing range of longer than 80m
- “Vehicle” safety: Whole vehicle safety control technology + spraying self-protection system

“Person” safety - farther away from fire site



“Vehicle” safety – whole vehicle safety control technology

It has the whole vehicle anti-tilting control system and flexible leg protection system, so as to guarantee whole vehicle safety.



“Vehicle” safety – spraying self-protection system

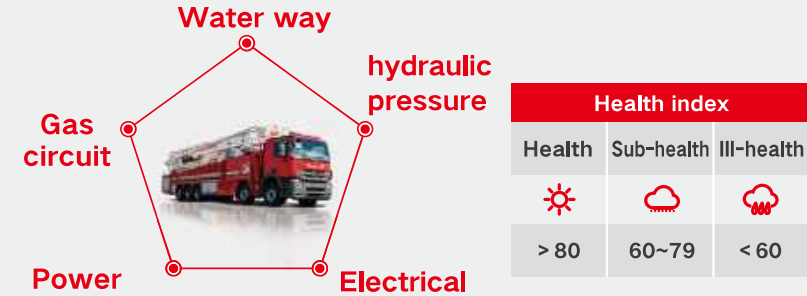
The terminal section of boom is provided with self-spraying protection system, which can guarantee the boom safety effectively.



High intelligence

HSD Health Self-diagnosis Technology:

Evaluate health index of vehicle in a real-time way, so as to guarantee the reliability of firefighting and fighting preparation.



IWT intelligent water way technology:

Select water incoming and outgoing modes rapidly, make water outgoing with one key, convenient in operation.



One-key boom retraction technology:

For “M type”, “arc type”, “vertical” and other target postures, the boom can be unfolded with one key, and also can be retracted with one key in any position.



Example



! Fire of some wood plant



! Explosion accident of some chemical plant



! Fire of semi-trailer tank car of some oil refining plant



! Fire accident of some battery plant



! Fire accident of some transformer substation



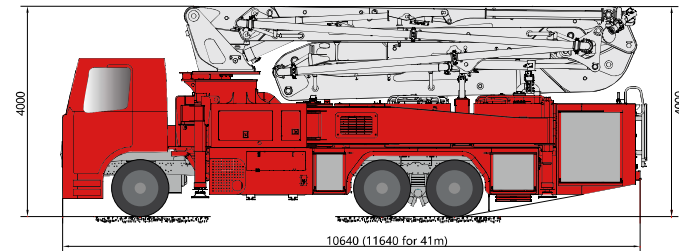
! Fire of some market

! Fire of some chemical plant

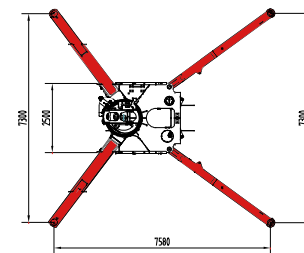
Technical Parameters of 38/41m Fire Truck

	Parameter name	SYM5330JXFJP38	SYM5330JXFJP41
complete vehicle Parameter	Overall dimensions (L × W × H)	10.64 m × 2.5 m × 4.0 m	11.64 m × 2.5 m × 4.0 m
	Maximum total weight	33000 kg	33000 kg
complete vehicle Parameter	Model of chassis	Actros 3341E5	Actros 3344E5
	Engine power	300 kw@1800 rpm	320kw@1800rpm
	Tail gas emission standard	Euro V	Euro V
Supporting System	Maximum unfolding span (front × back)	7.3 × 7.3m	7.3 × 7.3 m
	Minimum unfolding span	3.3m	3.3m
	Action time of support leg	40S	40S
Boom System	Maximum working height	38m	41m
	Maximum downward working depth	21.9m	18m
	Maximum working amplitude in case of 3.3m cross span	22.5m	22.5m
	Unfolding time of boom	140S	140S
	Slewing angle	± 360°	± 360°
	Slewing time	200S	200S
Hydraulic System	Allowable lifting weight of boom terminal end	180kg (long-distance loading rescue)	180kg (long-distance loading rescue)
	Model of fire control pump	Hale CB10/100-RSD	
	Rated flow of pump	6000LPM	
	Rated working flow of whole vehicle	4200LPM	
	Model of fire control gun	Akron 3482+5177	
	Rated flow of fire control gun	4800LPM	
	Maximum jetting range of water gun	80m (water)/70m (foam)	
	Scope of left and right swing angles of fire control gun	-45° ~ +45°	
	Allowable working pressure of pipeline	2.5MPa	
	Others	Manipulation mode	Local control + wired remote control (wireless optional)
Emergency retraction power		Gasoline engine pump group	

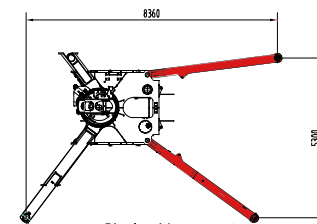
Schematic diagram of working scope



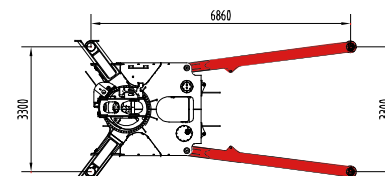
For graphical dimensions, the 38m fire control vehicle is adopted for example.



Maximum support



Single-side support



Minimum support

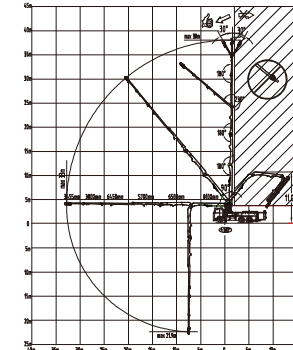


Diagram of working scope of 38m boom

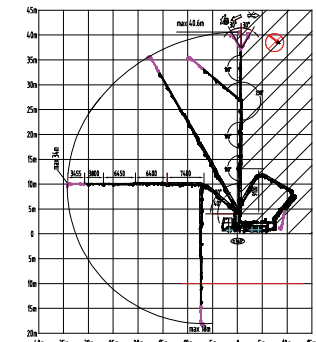


Diagram of working scope of 41m boom

Technical parameters of 48m fire truck

	Parameter name	SYM5422JXFJP48	SYM5400JXFJP48
complete vehicle Parameter	Overall dimensions (L × W × H)	12m × 2.5m × 3.97m	12m × 2.5m × 3.95m
	Maximum total weight	42450kg	40250kg
complete vehicle Parameter	Model of chassis	Bentz 4144	Volvo Fm500
	Engine power	325kw@1800rpm	368kw@1800rpm
	Tail gas emission standard	Euro V	Euro V
Supporting System	Maximum unfolding span (front × back)	9.1 m × 9.84 m	9.06 m × 9.89 m
	Minimum unfolding span	3.3 m	3.3 m
	Action time of support leg	40s	40s
Boom System	Maximum working height	47.5 m	47.5 m
	Maximum operating range	42.5 m	42.5 m
	Maximum downward working depth	29 m	29 m
	Maximum working amplitude in case of 3.3m cross span	28 m	28 m
	Unfolding time of boom	180s	180s
	Slewing angle	± 360°	± 360°
	Slewing time	200s	200s
	Allowable lifting weight of boom terminal end	180kg (long-distance loading rescue)	180kg (long-distance loading rescue)
	Model of fire control pump	Darley PSP1500 of the USA	Hale 8FGR of the USA
	Rated flow of pump	5400LPM	10000LPM
Rated working flow of whole vehicle	4200LPM	6400LPM	
Rated flow of gun	4800LPM	5700LPM	
Hydraulic System	Maximum theoretical jetting range	80 m	80 m
	Volume of liquid tank	3,000L (total volume of water and foam)	3,000L (total volume of water and foam)
	Scope of left and right swing angles of fire control gun	[-45° ,+45°]	[-30° ,+30°]
	Allowable working pressure of pipeline	2.5MPa (ultra-high-rise water supply)	2.5MPa (ultra-high-rise water supply)
Others	Manipulation mode	Local control + wired remote control (wireless optional)	Local control + wired remote control (wireless optional)
	Emergency retraction power	Gasoline engine pump group	Gasoline engine pump group

Schematic diagram of working scope

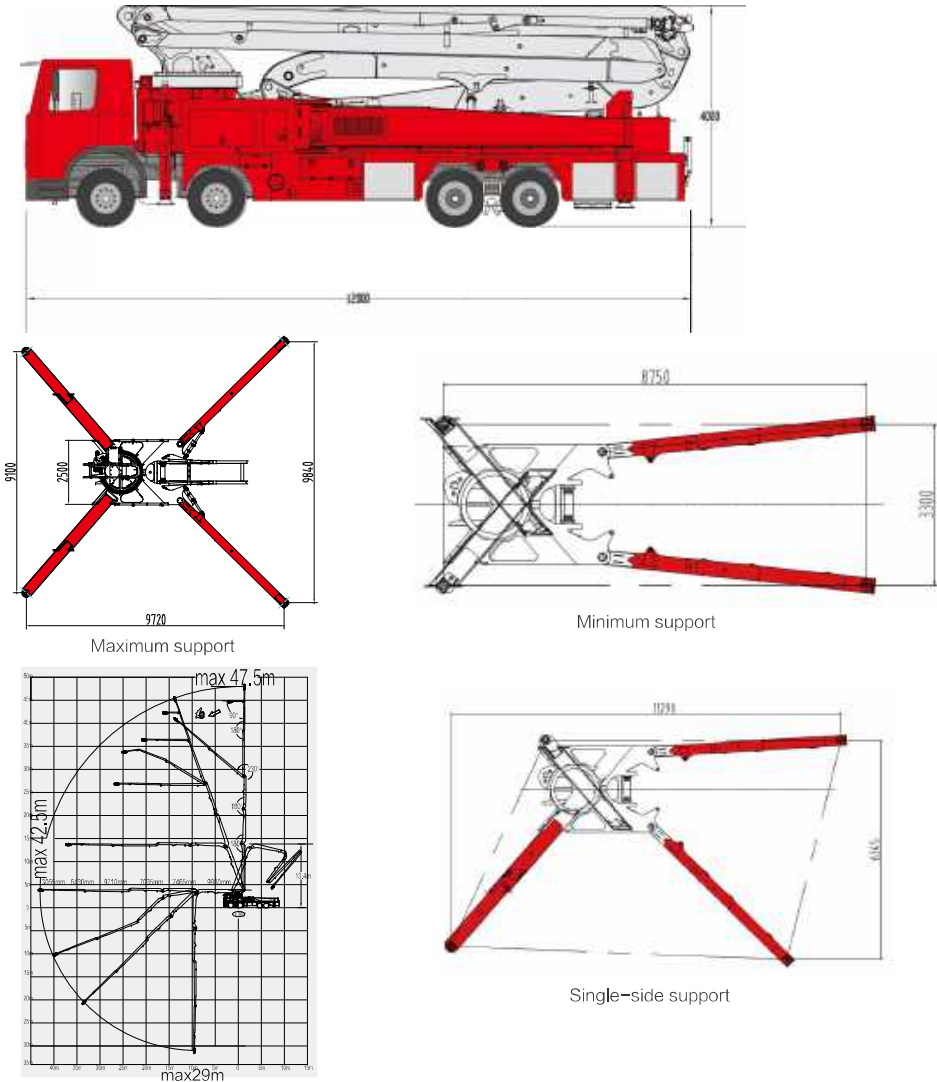


Diagram of Working Scope of 48m boom

Technical Parameters of 56m fire truck

Parameter name		SYM5420JXFJP56
complete vehicle Parameter	Overall dimensions (L × W × H)	13.72 × 2.5 × 3.95
	Maximum total weight	42050kg
Chassis Parameter	Model of chassis	Volvo Fm500
	Engine power	368kW @ 1800rpm
	Tail gas emission standard	Euro V
Supporting System	Maximum unfolding span (front × back)	9.06 × 9.89 m
	Minimum unfolding span	3.3 m
	Action time of support leg	40 s
	Maximum working height/working amplitude	56/47 m
Boom System	Maximum downward working depth	28 m
	Maximum working amplitude in case of 3.3m cross span	32 m
	Unfolding time of boom	220 s
	Slewing angle	± 360°
	Slewing time	130 s
Hydraulic System	Model of fire control pump	Hale 8FGR
	Rated flow of pump	10000LPM
	Rated working flow of whole vehicle	4800LPM
	Model of fire control gun	TFT monsoon 100 (other brands are optional)
	Rated flow of fire control gun	6000LPM
	Maximum jetting range of water gun	80m (water)/70m (foam)
Others	Scope of left and right swing angles of fire control gun	-30° ~ +30°
	Allowable working pressure of pipeline	2.5MPa
	Manipulation mode	Local control + wired remote control (wireless optional)
	Emergency retraction power	Gasoline engine pump group

Schematic diagram of working scope

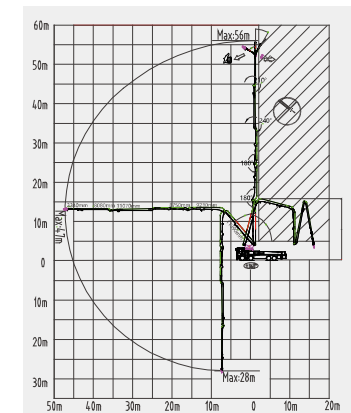
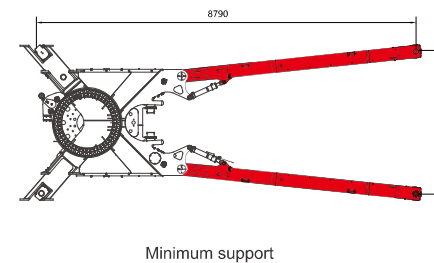
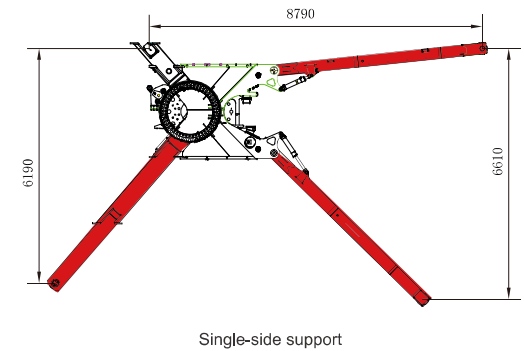
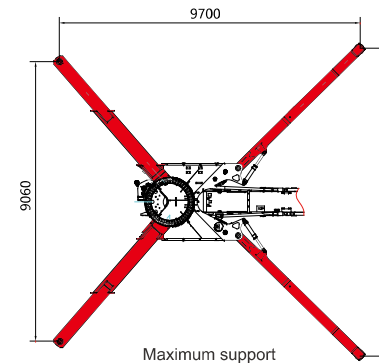
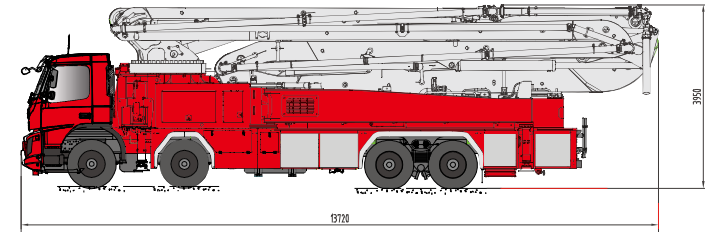
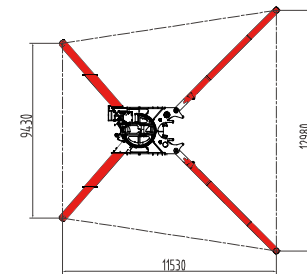
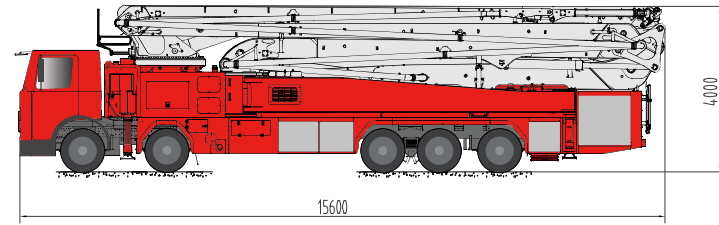


Diagram of working scope of 56m boom

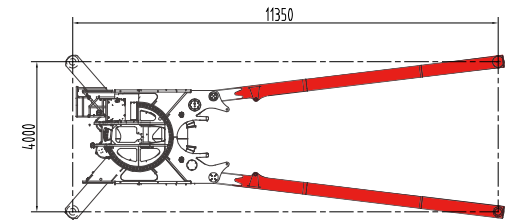
Technical parameters of 62m fire truck

	Parameter name	SYM5510JXFJP62	SYM5511JXFJP62
Overall parameters	Overall dimensions (L × W × H)	15.6m × 2.53m × 4m	15.6m × 2.53m × 4m
	Model of chassis	Bentz 5046	Volvo Fm540
Chassis Parameter	Engine power	335 kw @ 1800 rpm	397 kw @ 1450-1900 rpm
	Tail gas emission standard	Euro V	Euro V
	Maximum unfolding span (front × back)	9.2m × 12.75m	9.2m × 12.75m
Supporting System	Minimum unfolding span	4m	4m
	Action time of support leg	40s	40s
	Maximum working height	62.5m	62.5m
Boom System	Maximum operating range	56m	56m
	Maximum downward working depth	45m	45m
	Maximum working amplitude in case of 4m transverse span	35m	35m
	Unfolding time of boom	270s	270s
	Slewing angle	± 360°	± 360°
	Allowable lifting weight of boom terminal end	180kg (long-distance loading rescue)	180kg (long-distance loading rescue)
	Fire control pump	Waterous CRU10000	Waterous CRU10000
Hydraulic System	Fire control gun	Akron 3482+5177	Akron 3480+5178
	Rated flow of pump	10000LPM	10000LPM
	Rated flow of gun	4800Lpm	5700Lpm
	Rated working flow of whole vehicle	4200LPM	4800LPM
	Maximum jetting range	Water 85m/70m	Water 85m/70m
	Volume of liquid tank	3,200L (2,000L water + 1,200L foam)	3,200L (2,000L water + 1,200L foam)
	Scope of left and right swing angles of fire control gun	[-30° , +30°]	[-25° , +25°]
Others	Allowable working pressure of pipeline	2.5MPa	2.5MPa
	Manipulation mode	Local control + wired remote control (wireless optional)	Local control + wired remote control (wireless optional)
	Emergency retraction power	Gasoline engine pump group	Gasoline engine pump group

Schematic diagram of working scope



Maximum support



Minimum support

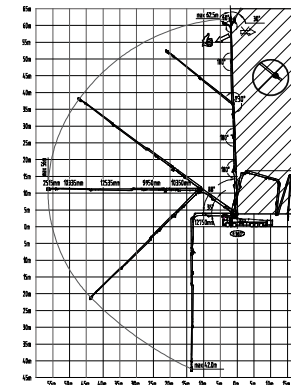
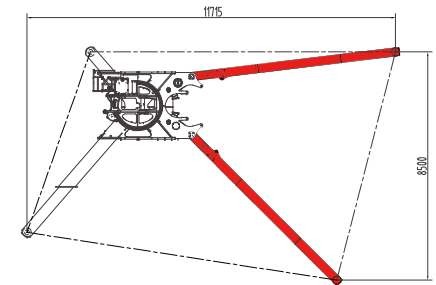


Diagram of Working Scope of 62m boom



Single-side support